



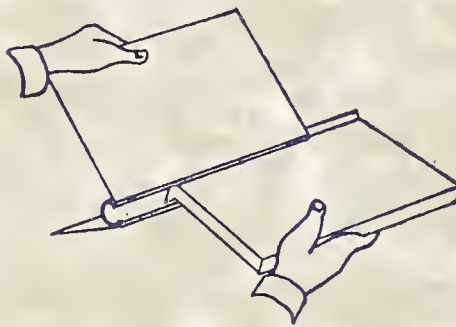
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FORMS OF
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BY

A. L. GOODSON & D. K. READ.

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Volume 8

Noctuidae Part 2

Aberrational Forms

Noctuidae Vol. 2.

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p. I.

Leucania Ochs.

pallens Linn. Syst. Nat. Ed. X. 1758. p. 510.

aberrational forms etc.

pallens Linn. typical form - - forewings yellowish with few blackish points.

ab. pallida Borkhausen. Nat. Eur. Schmett. 1792. 4. p. 719.

Whitish ground colour streaked with ochre-yellow on the veins, in the middle of the wing a single small brown dot but no other markings. Hindwings whitish with the veins scarcely perceptibly yellowish tinged.

Very close to the typical form but may be separated if desired by the absence of dark spots and streaks, other than the single discoidal spot.

ab. ectypa Hubner. Samml. Eur. Schmett. 1800-03. fig. 231.

The figure shows the forewings bright reddish with pale nervures and some blackish points, in our copy quite irregular. Hindwings whitish with a distinct dark median band.

This is the fairly common red form in which the postmedian row of dots are present, at least, to some extent.

ab. rufescens Haworth. Lep. Brit. 1809. p. 175.

Hardly worth separating from the preceding but Lempke, Tutt and others do so on account of the author not mentioning any blackish points.

Forewings reddish with pale veins and three or four obsolescent streaks of fuscous there are apparently no blackish points. Hindwings shaded on outer margin.

ab. ochracea Stephens Ill. Haust. 1829. 3. p. 77.

Forewings pale ochraceous and immaculate, a slightly rufescent tinge in certain lights, obscurely striated with pale fuscous between the nervures. Hindwings whitish-ash, with the margin slightly darker.

ab. suffusa Stephens. Ill. Haust. 1829. 3. p. 77.

Forewings rufescent with the nervures and two intermediate lines pale or whitish-ash, a single discoidal spot of a more or less deep fuscous and two or three obscure longitudinal fuscous streaks towards the hinder margin, which is immaculate. Hindwings whitish with a broad undefined fuscous cloud towards the hinder margin, the latter immaculate.

Apparently the form was named on account of the fuscous clouded hindwings and not, as Tutt suggests, because of a thick sprinkling of black atoms below the median nervure of the forewing which is not mentioned in Stephens description.

ab. arcuata Stephens. Ill. Haust. 1829. 3. p. 76.

Hindwing form. The hindwings white, slightly tinted with cinereous towards the hinder margin, with an arcuated series of black or fuscous spots a little behind middle, each spot placed upon a nervure.

ab. venata Lempke. Tijdschr. Ent. 1940. 83. p. 194.

The hindwings with black veins.

ab. punctilinea Lempke. Tijdschr. Ent. 1940. 83. p. 194.

Forewings with a complete row of black dots from the costa to the inner margin.

ab. candida Rocci. Atti. Soc. Ligur. Sci. Nat. 1913-14. 24. p. 153.

Forewings as completely white as the hindwings, without any trace of the yellowish suffusion.

Noct. 98.
p.2.

pallens Linn. continued.

ab.minor Dufrane. Lamb. 1932.32.p.81.

Small examples of the type form measuring only 28 mm.

ab.nana Dufrane. Lamb. 1932.32.p.81.

Small as the preceding ab.minor but with the coloration of ab.suffusa Stephens.
A quite unnecessary name.

Noct. 99.
p. I.

Leucania Ochs.

favicolor Barrett. Ent. Mon. Mag. 1896. 32. p. 100.

aberrational forms etc.

favicolor Barrett. typical form - wainscot-buff with discal dot and postmedian row of dots or dashes .

ab. lutea Tutt. Ent. Rec. 1904. 16. p. 253.

Bright yellow-buff, with discal dot, and two dots representing the elbowed line.

ab. lutea-typica Tutt. Ent. Rec. 1904. 16. p. 253.

Bright yellow-buff with discal dot and a row of dots or tiny dashes representing the elbowed line.

ab. obsoleta Tutt. Ent. Rec. 1904. 16. p. 253.

Wainscot-buff with discal dot and two dots representing the elbowed line.

ab. intermedia Tutt. Ent. Rec. 1904. 16. p. 253.

Rufous-buff with discal dot and two dots representing the elbowed line.

ab. intermedia-typica Tutt. Ent. Rec. 1904. 16. p. 253.

Rufous-buff with discal dot and a row of dots representing the elbowed line.

ab. rufa Tutt. Ent. Rec. 1904. 16. p. 253.

Deep reddish with discal dot and two dots representing the elbowed line.

ab. rufa-typica Tutt. Ent. Rec. 1904. 16. p. 253.

Deep reddish with discal dot and a row of dots representing the elbowed line.

ab. argillacea Tutt. Ent. Rec. 1904. 16. p. 253.

Forewings of a dull clayey tint reminding one of certain specimens of *N. castanea* ab. *neglecta*; the fringes have a decided rosy flush. Hindwings are especially dark and suffused from the outer margin to the base.

ab. fusco-rosea Mathew. Ent. Rec. 1905. 17. p. 15.

Forewings rosy-buff; discal dot and row of dots representing the elbowed line small but distinct; hindwings pale rosy, with nervures conspicuously shaded with dark brown.

ab. pallida Mathew. Ent. Rec. 1905. 17. p. 15.

Forewings very silky, pale creamy-buff, hindmargins flushed with rosy pink; discal dot and dots representing the elbowed line very small and indistinct; hindwings whitish-grey with the nervures slightly darker.

ab. obscura Mathew. Ent. Rec. 1905. 17. p. 14.

Forewings cinnamon-brown with smoky clouding between some of the nervures; discal dot and dots forming the elbowed line small and indistinct; hindwings smoky, nervures slightly darker, fringes pale.

ab. aenea Mathew. Ent. Rec. 1905. 17. p. 14.

Forewing deep orange, one dot only representing the elbowed line; hindwings smoky, nervures distinctly darker, fringes pale.

Noct. I00.
p. I.

Leucania Ochs.

impura Hubner. Samml. Eur. Schmett. I803-08. fig. 396.
= fuligosina Haworth. Lep. Brit. I809. p. I74.
= congrua Hubner. Samml. Eur. Schmett. I8I8. fig. 6I6.

aberrational forms etc.

ab. punctina Haworth. Lep. Brit. I809. p. I74.

Most authors merely treat this as the red form of impura but from the name it would seem that Haworth named it because of the fuscous dots on the extreme hind-margin, he also gives it the English name of "The Dotted Border Wainscot.", the shade of colour is of no great importance.

The forewings veined and red, the outer margin with fuscous spots. Hindwings pale, with a broad cinereous area at the anal angle..

ab. fuscipennis Warren. Seitz. I9I0. 3. p. I00. pl. 25 row f.

The hindwing blackish fuscous.

Presumably much darker than normal.

ab. punctilinea Tutt. Entom. I888. 2I. p. I79.

Forewings reddish-ochreous much suffused with dark scales; the row of spots parallel to the outer margin well-developed, forming an almost continuous row, commencing on the costa and ending on the inner margin; a dark shade under the pale median nervure. Hindwings very much suffused and very dark.

ab. nigrolinea Turner. Ent. Rec. I938. 50. p. 22. (February I938)

(named also by Turner. in Proc. S. Lond. Ent. & Nat. Hist. Soc. I937-38. p. 34. June I938.)

On the forewings a jet black line is developed along a fold below the apex, extending about half way along the wing to the hind margin. Normally there is either a very slightly darkened ground colour line or no indication of a line.

subsp. scotica Cockayne. Ent. Rec. I944. 56 p. 55.

Scotland. Slightly smaller, as a rule without the red tint so common in English specimens. The hindwings are uniformly black, this colour extends to the inner margin and termen. The difference in the hindwings when placed next to a row of English specimens is most striking.

Irish specimens in the collection here appear to belong to this race also.

ab. impuncta Lempke. Tijdschr. Ent. I940. 83. p. I95.

Forewings without a trace of the black dots.

Noct. IOI.
p. I.

Leucania Ochs.

straminea Treits. Schmett. Eur. 1829.5 (2) p.297.
= intermedia Tutt. Entom. 1888.21.177.

aberrational forms etc.

straminea Treits. typical form - - soft straw-yellow, at the base ashy-grey dusted, all the veins whitish, the middle one has a grey shadow along half its length, at the end of this a black spot, two other spots exterior to this and placed one above the other and connected by a line of fine grey dusting. Hindwings white weakly dusted grey and yellowish, with a trace of the discoidal spot, around which is a curve of small blackish streaks.

Tutt's intermedia is difficult to separate, he apparently did not read Treitsche's main description and thought the hindwings did not possess the transverse row of dots on the hindwings on which he apparently bases his intermedia. These spots however are mentioned as "a curve of small blackish streaks."

ab. rufolinea Tutt. Entom. 1888.21.p.177.

Forewings bright reddish-ochreous, all wing rays pale so that the wings appear to be made up of alternate fine lines of red and white; the central distinct, a complete row of black dots parallel to the hindmargin; a well developed dark reddish shade under the basal part of the central nervure. Hindwings white, much shaded with grey (more so in the ♂ than in the ♀) with a row of black dots on the nervures. Many have the forewings much suffused with black scales as in ab. nigrostriata Tutt but the latter never has the red ground colour.

ab. nigrostriata Tutt. Entom. 1888.21.p.177.

Forewings pale wainscot-brown, so thickly suffused with black scales as to obscure the ground colour; the wing rays very pale, sometimes white, so that the wing has the appearance of being crossed with alternate striations of black and white lines; a very dark, almost black, shade runs under the median nervure, the central dot and row of dots present as in ab. rufolinea but more conspicuous owing to the suffusion. Hindwings much irrorated with dark atoms, giving a very dark appearance. Mostly a ♂ form.

ab. obsoleta Tutt. Entom. 1888.21.p.177.

Forewings of a delicate wainscot or straw colour with the median nervure pure white below which is a faint trace of the basal part of the longitudinal shade. The three dots are entirely absent. Hindwings pure white with no markings or dots.

ab. punctilinea Lempke. Tijdschr. Ent. 1940.83.p.193.

Forewings with a complete row of black dots from costa to inner margin.

ab. ferrago Cockayne. Ent. Rec. 1944.56.p.56 .

Head, thorax and forewings unicolorous dark reddish-brown; hindwings a paler shade of the same colour.

Noct. 102.
p. I.

Leucania Ochs.

pudorina Schiff. Wien Verz. 1775. p. 85.

aberrational forms etc.

pudorina Schiff = (pudorina Hubner fig. 401) typical form - the ground colour yellowish with a strong reddish tint.

ab. impudens Hubner. Samml. Eur. Schm. 1800-03, fig. 229.
The ground colour yellowish without a trace of the reddish tint.

ab. pallida Spuler. Schm. Eur. 1906. I. p. 222.
Pale greyish ochre-yellow with indistinct grey streaks.
Turner in his Suppl. Brit. Noct. Ent. Rec. 41. p. (108) says that Staudinger indicated Hubner's fig. 229 as ab. pallida but it is not so, Staudinger was merely stating that the figure was pale, the name pallida would otherwise have been in italics as all other abs. and vars. are in that Catalogue.

ab. striata Tutt. Entom. 1888. 21. p. 153.
= obscurata Staudinger. Mem. Rom. 1892. p. 475.
Both Tutt and Staudinger name their specimens from Amurland, Staudinger says that all Amur specimens are of the same tint so that, although their descriptions do not completely agree, the obscurata Stgr. must fall as a synonym to Tutt's striata. Tutt's description says - "the forewings very glossy wainscot-brown rather than ochreous, coarsely powdered with black, the wing rays and shading, which is faintly perceptible in English specimens, showing out clearly in very dark grey. The colour and markings are much intensified. I have a specimen lent to me by W. Farren of Cambridge, with all the spaces between the nervures as thickly powdered with black scales as possible, the wing rays being dark grey. I should think this specimen is almost exactly like the Amur Specimens."
Staudinger obscurata description reads - "My Amur specimens all have a reddish-grey coloration of the forewings, which are darkened by numerous scalings more or less streak-like arranged. This occurs rarely and to a much less extent in European examples. The hindwings are generally far darker, blackish-grey with light reddish fringes."
The form is therefore racial in Amur but occurs as an aberration in Europe.

ab. rufescens Tutt. Entom. 1888. 21. p. 153.
Forewing with the ground colour bright rosy-red, no trace of ochreous, with very pale wing rays; the wings only very slightly suffused with black scales, except just above the median nervure, where they form a decidedly blackish longitudinal streak; a small but very distinct black discoidal spot. Hindwings pale grey, with red fringes.

Noct. 103.
p. I.

Leucania Ochs.

obsoleta Hubner. Samml. Eur. Schmett. 1800-03. fig. 233.

aberrational forms etc.

obsoleta Hbn. typical form - - the ground colour yellowish-brown.

ab. nigrostriata Tutt. Brit. Noct. 1891. I. p. 38.

Forewings reddish-wainscot colour which shows distinctly along the pale nervures; a pale central longitudinal under the median nervure and a row of black dots parallel to the hindmargin; the space between the pale nervures filled up with numerous black scales giving the insect a dark, striated appearance. Hindwings dark grey, hindmargin darker, nervures black.

ab. grisea Tutt. Brit. Noct. 1891. I. p. 38.

The ground colour pale grey with no trace of reddish. The spaces between the nervures less strongly dusted with black scales than in nigrostriata Tutt.

ab. rufescens Lempke. Tijdschr. Ent. 1940. 83. p. 203.

Ground colour of the forewings reddish.

ab. completa Lempke. Tijdschr. Ent. 1940. 83. p. 203.

Besides the row of dots in the place of the outer line there is also a clear coherent inner line.

ab. impuncta Lempke. Tijdschr. Ent. 1940. 83. p. 203.

The veins on the forewing bordered with black but the row of black dots fails.

ab. nudivena Lempke. Tijdschr. Ent. 1940. 83. p. 203.

The row of black dots is present but the veins are not bordered with black.

ab. obsoletior Spuler. Schmett. Eur. 1906. I. p. 361.

No black markings on the forewings except the outer marginal spots and a few scales on the inner margin, thus causing the white colour of the veins to be strongly emphasised, this is more striking and complete in the ♀.

Noct. 104.
p. 1.

Leucania Ochs.

litoralis Curtis. Brit. Ent. 1827. 4. p. 157.

aberrational forms etc.

Noct. 105.
p. I.

Leucania Ochs.

comma Linn. Faun. Suec. 1761. p. 316.
= turbida Hubner. Samml. Eur. Schmelt. 1800-03 fig. 228.

aberrational forms etc.

comma Linn. typical form - - Linnaeus says cinereus, substriated. Hubner's figure is light yellowish-brown. It is assumed there is no discoidal spot on forewing.

ab. suffusa Tutt. Entom. 1888. 21. p. 154.

Ground colour of forewings of a decided brown, much darker than the type form; the wings including the costal area, very much suffused with fuscous scales, the spaces between the wing rays showing out as distinct, dark, longitudinal, wedge-shaped streaks on the outer margin. The black streak under the base of the median nervure intensely black. Hindwings of a deep blackish-grey colour. Tutt refers this form to the figure 618 in Hubner (erroneously called congener on the plate) but Hubner's form is probably racial in Europe.

ab. ochracea Tutt. Brit. Noct. 1891. I. p. 38.

Bright brownish-ochreous with a tinge of reddish; the black lineola and streaks between the nervures standing out very conspicuously.

ab. nigropuncta Tutt. Brit. Noct. 1891. I. p. 38.

A small distinct black spot at the end of the discoidal cell of the forewings.

ab. bistriata Lempke. Tijdschr. Ent. 1940. 83. p. 202.

There is also a black streak along the outer half of the upper side of the cell.

ab. punctilinea Lempke. Tijdschr. Ent. 1940. 83. p. 202.

Along the outer margin of the forewing is a row of black dots from costa to inner margin (in place of the outer line).

ab. nigristriata Cockayne. Ent. Rec. 1951. 63. p. 229.

On the forewing there is a black streak along the costa, a black streak from the base almost to the termen between nervures 1 and 2, and a shorter one between 1 and the inner margin; the other black streaks are accentuated.

ab. rhodocomma Pungler. Iris. 1900. 13. p. 120.

Differs by the dark reddish colour of the whole insect.

Described from Alexander Mountains and possibly a race but since only six specimens were obtained the type form may occur with them, the author does not say.

Noct. 106.
p. I.

Leucania Ochs.

putrescens Hubner. Samml. Eur. Schm. 1823-24. fig. 730.

aberrational forms etc.

putrescens Hbn. - - typical form - the ground colour reddish-brown, the markings dark. The figure shows an extremely dark form, far darker than any British specimens, or any Continental in the Rothschild Collection at Tring. The artist is probably at fault.

ab. expallesens Dannehl. Mitt. Munch. Ent. Ges. 1929. 19. p. 112.

Of a white-grey instead of pale yellow-brown ground colour. Marking very delicate, the dark shade above the cell and at the outer margin is not present. Hindwings white, the marginal spots hardly visible.

ab. boisduvalii Duponchel. Hist. Nat. Lep. 1827. 7. p. 79 pl. 105 f. 6.

The ground colour grey-yellowish, dark shading in the disc and on the margins, the nervures white. A white dot in the middle and two bowed lines of black dots traversing the wings. Hindwings white with blackish nervures. Possibly confined to Provence.

/

Noct. 107.
p. I.

Leucania Ochs.

unipuncta Haworth. Lep. Brit. 1809. p. 174.
= extranea Guenee. Pap. France 1852. 5. p. 77.

aberrational forms etc.

ab. asticta Tutt. Brit. Noct. 1891. I. p. 34.

No white spot at the base of the reniform on the forewings which are less powdered, the apical streak less marked.

ab. nigra-suffusa Richardson. Ent. Gaz. 1958. 9. p. 128. pl. 9 f. 6.

Forewings suffused with black, through which the normal markings show. Hindwings black. Thorax and legs blackish-brown, abdomen black.

Noct. 108.
p. I.

Leucania Ochs.

l-album Linn. Syst. Nat. 1767. XII. p. 830.

aberrational forms etc.

ab. o-album Milman. Entomologist 1937. 70. p. 107.

The long shaft of the "l" mark on the forewings is obsolete leaving only the part on the outer end of the discoidal cell. This portion, or spot, is similar to that of *L. albipuncta* in position, size, shape and colour.

Noct. IO9.
p. I.

Leucania Ochs.

vitellina Hubner. Samml. Eur. Schmiett. 1803-08 fig. 379.

aberrational forms etc.

ab. pallida Warren. Seitz 1910. 3. p. 97. pl. 23 row i.

Pale, less highly coloured specimens with whiter hindwings, comparatively rare in Western Europe but the usual form in Syria and Turkestan.

ab. lacteicolor Rothschild. Nov. Zool. 1914. 21. p. 324.

Forewings cream buff; two black dots at end of cell, an almost imperceptible ante-median darker buff line and an almost obsolete postmedian line of very minute black dots, also a shadowy darker buff subterminal line. Hindwings semivitreous opalescent white.

Described as a species but is merely an aberration of vitellina in a long series from N. Africa, the type in the Rothschild coll. at Tring, it is rather worn, ~~such~~ paler than pallida Warren, *but probably the same*

ab. griseoescens Dannehl. Mitt. Munch Ent. Ges. 1929. 19. p. 113.

The yellow tones replaced by grey or yellow-grey. Very rare form, 2 ♂♂, 3 ♀♀ from Sud Tyrol.

ab. saturator Dannehl. Mitt. Munch Ent. Ges. 1929. 19. p. 113.

Deep rust-red, more or less strongly marked. Hindwing darker, veins strongly toned. Mostly large individuals, everywhere in the south amongst the species.

Noct. II0.
p. I.

Leucania Ochs.

albipuncta Schiff. Wien Verz. I775. p. 84.

aberrational forms etc.

ab. italo-gallica Milliere. Cat. Rais. Lep. Alpes-Mar. I872 Ed. 2. Suppl. p. 21.
The ground colour passing to a more or less dark brown.

ab. suffusa Tutt. Brit. Noct. I891. I. p. 31.

With the same markings as the type but with the ground colour much more suffused with dark scales.

Tutt does not state a ground colour so presumably the form can be either in the reddish or the greyish examples which follow, otherwise it would be a synonym of the preceding italo-gallica Mill.

ab. rufa Tutt. Brit. Noct. I891. I. p. 31.

Of a much deeper red ground colour than the type, the characteristic white mark in the reniform standing out very distinctly. The red colour varies in its intensity.

ab. grisea Tutt. Brit. Noct. I891. I. p. 31.

Without the reddish tinge of the type, the forewings being of a uniform dull grey, the markings normal.

ab. ochrea Warren. Seitz. I910. 3. p. 95. pl. 23 row d.

Ochreous, dusted with grey and with a slight flush, rufous in the ♂, reddish-brown in the ♀, with the lines dark grey and the marginal area darker; hindwing dirty-whitish in the ♂, with termen greyer, more wholly grey in the ♀.

ab. flecki Caradja. Iris. I896. 9. p. 31.

Forewings dark grey-brown and rather dark grey hindwings.

ab. expallidata Warren. Seitz I910. 3. p. 95 pl. 23 f. row e.

Smooth pale grey with a flesh-coloured tinge; the inner line hardly traceable, but the outer black and distinct throughout; the lunules and the teeth all alike strongly marked; but the usual marginal dark area is concolorous with the rest of the wing; the median vein shows dark below the white discal spot; hindwing dirty-white, greyer towards termen.

ab. fasciata Spuler. Schmett. Eur. I906. I. p. 227

With a darker grey median area.

ab. repicta Kruger. Soc. Ent. I919. 34. p. 33.

Strongly black marked. Along the median vein between the two transverse lines a black-grey streak in which the white cell spot lies.

ab. ? cortii Kruger. Soc. Ent. I919. 34. p. 33.

Described as a species but according to Vorbrodt is typical albipuncta. The preceding repicta was described as an aberration of cortii by the same author.

ab. albilinea Wehrli. Mitt. Thurgau Nat. Ges. .20.

The white spot at the end of the cell is extended, forming a white horizontal line extending to the inner transverse line.

Description from Seitz Suppl. 3 p. II8.

Noct. III.
p. I.

Leucania Ochs.

lythargyria Esper. Eur. Schmett. I788.4.p.34I.pl.I24 f.6.
= punctum-album de Vill. Linn. Ent. I789.2.p.282.

aberrational forms etc.

lythargyria Esper. - - typical form -ground colour light reddish to light greyish-red.

ab. grisea Haworth. Lep. Brit. I809.p.229.

Wings grey, unicolorous to a large extent.

Haworth gave this description to the male, the female was given as reddish.

ab. pallida Tutt. Brit. Noct. I89I. I.p.32.

Of a delicate wainscot colour with the slightest suspicion of a pinkish tinge; the usual markings not very well developed.

ab. ferruginea Borkhausen. Scriba's Beitr. I79I.2.p.I49.pl.I0 f.5.

= ferrago Fabricius. Ent. Syst. I794.3 (2).p.76.

Forewings reddish rust colour

ab. fulvescens Tutt. Brit. Noct. I89I. I.p.32.

Deep ochreous-brown or rather fulvous, with scarcely a tinge of red; the markings generally more or less obsolete.

ab. amota Strand. Schrift. Ges. Danzig. N.F. I9I0. I0.p.285.

Forewings unicolorous red-brown, except the white middle spot, without any further markings.

ab. demaculata Hoffmann & Klos. Schmett. Steierm. I9I6.2.p.II3.

The white spot on the forewings is absent or very faint.

ab. flava Cockayne. Ent. Rec. I95I.63.p.229.

The forewings dull ochreous with no trace of the usual rufous tint.

ab. deinographa Dannehl. Ent. Z. I926.39.p.I72.

Grey toned examples especially distinguished by saturation with dark atoms and marking elements, so that the lines are well emphasised or extra distinct.

ab. myopolia Dannehl. Ent. Z. I926.39.p.I72.

Completely suffused with dark dusting on a grey, more rarely on a grey-yellowish or grey reddish ground, with no trace or relic of the lines. These uniform smoke-grey or brownish specimens I name myopolia.

ab. extralinea Tutt. Brit. Noct. I89I. I.p.32.

In addition to the ordinary markings there is a complete transverse line between the reniform and the row of dots parallel to the hindmargin. This line is the complete development of the dark lunular mark sometimes seen just inside the row of dots, on the inner margin.

ab. marginata Tutt. Brit. Noct. I89I. I.p.32.

Hindwings silvery grey in colour, bordered on their outer margin by a broad dark band.

ab. nigrescens Best. Ent. Rec. 1953. 65. p. 17.

Forewing deep red-brown overlaid with smoky colour, darker and duller at the base and marginal area, external to the row of black dots, discoidal spot white, fringe with inner half pale and outer half dark brown. Hindwing blackish-brown. Head, thorax and abdomen blackish-brown.

Noct. II2.
p. I.

Leucania Ochs.

conigera Schiff. Wien Verz. I775. p. 84.
= floccida Esper. Eur. Schmett. I788. 4. p. 322 pl. I23 f. 5.

aberrational forms etc.

conigera Schiff. typical form - - the ground colour yellowish, with fuscus lines.

ab. intermedia Tutt. Brit. Noct. I89I. I. p. 30.

Redder ground colour than the type form but not suffused so much with black scales as the more melanic ab. suffusa Tutt.

ab. suffusa Tutt. Brit. Noct. I89I. I. p. 30.

Forewings of a dusky ferruginous-red, without any trace of the brighter yellowish ground of the type form, the whole being suffused with darker scales, markings distinct, and a very dark shade surrounds the reniform, extending to the orbicular the costa shaded with dark scales, the wing rays also dark. Hindwings very dark smoky-grey with traces of a still darker transverse line.

ab. obscura Hoffmann & Kloss; Schmett. Steierm. I9I6. 2. p. III.

Very dark female, which is dark brown and similar to a dark L. albipuncta. Presumably darker than the preceding suffusa Tutt.

ab. flavipunctum Tutt. Brit. Noct. I89I. I. p. 30.

The ordinary characteristic white spot on the forewings replaced by an ochreous one.

ab. coxi Chalmers-Hunt. Entom. I96I. 94. p. 282. pl. 7 f. 6.

Markings virtually absent; the central portion of the forewing and whole of the hindwing is pale golden-yellow; colour of cilia normal.

ab. mezeyi Dioszeghy. Pub. Mus. jud. Hunedoara I930. 27. p. 42.

Verh. Siebenburg Ver. Naturw. . 79-80. p. 233.

Noct. II3.
p. I.

Mythimna Ochs.

turca Linn. Faun. Suec. I76I. p. 322.
= volupia Hufn. Berl. Mag. I766. 3. p. 304.

aberrational forms etc.

turca Linn. typical form - - ground colour red-brown, dusted with darker.

ab. lutescens Tutt. Entom. I888. 2I. p. I36.

Ground colour of the forewings brighter and more yellowish than in the type and only sparingly sprinkled with darker scales, the transverse lines very distinct, and the fringe of a pale shining yellowish-red colour the same as the ground. Hindwings much paler than in type with a darker shade in the centre.

ab. obscura Tutt. Entom. I888. 2I. p. I36.

Forewings of an obscure smoky-grey colour, with a dull coppery tinge, much suffused with dark scales. The white spot in the centre very indistinct and the transverse lines much blurred.

ab. lividus Tutt. Brit. Noct. I89I. I. p. 33.

"Close to obscura of which it is an extreme development; Ground colour greyish with a slightly yellowish tinge, altogether a much paler and characteristic variety than any other."

Tutt seems to be very mixed in this description, how a much paler insect can be an extreme development of a dark one is difficult to understand. Possibly he meant lutescens, not obscura, the first part of his description must therefore be ignored.

ab. immaculata Wightman. Ent. Rec. I929. 4I. Suppl. p. (I05)

Ground colour of the forewings deep yellow-ochre, smooth and unicolorous without the least trace of darker scales, the only markings being the inner and outer lines which are present as thin sharp almost black lines, and a small black transverse line, about 4 mm. in length, representing the reniform. This line is edged towards the outer margin with white. A row of small dots lie along the outer margin. The fringe is darker than the ground colour, with a reddish tinge.

ab. virgata Dannehl. Ent. Z. I926. 39. p. I76.

The middle area darker, base and outer areas remain the same colour as typical form.

ab. athesiensis Dannehl. Ent. Z. I926. 39. p. I76.

Completely darkened, in which the lines are hidden and on the unicolorous, blue-blackish, sooty grey-brown-red, only the small spots or points of the stigmata appear pale. Hindwings strongly grey-black dusted so that apart from the margin and an indication at the base there is none of the yellow-red tone.

Noct. II4.
p. I.

Cucullia Schrk.

- umbratica Linn. Syst. Nat. 1758. X. p. 515.
= lucifuga Esper. (nec. Schiff.) Eur. Schmett. 1793. pl. 178 f. 6.
= lactucae Hbn. (nec. Esper) Samml. Eur. Schmett. 1800-03 f. 264.
= tanaceti Haworth. Lep. Brit. 1809. p. 165.
= sonchi Heinemann. 1859. Schmett. Dtsch. Schweiz. I. p. 400.

aberrational forms etc.

ab. albida Spuler. Schmett. Eur. 1906. I. p. 271.

Female form in which the hindwings are whitish as in the male. Also the body and fringes of the forewings in part, are perceptibly whitish ash-grey.

ab. obscura Buresch. Arb. Nat. Ges. Bulg. 1885?. 7. p. 81.

A melanic form described from a single specimen from Sofia.

Description taken from Seitz 3 Suppl., I have not seen the original.

ab. rhodana Cabeau. Rev. Mens. Soc. Ent. Nam. 1923. 23. p. 14.

Forewings not grey but of a beautiful rose.

Noct. II5.
p. I.

Cucullia Schrk.

asteris Schiff. Wien Verz. I775. p. 312.

aberrational forms etc.

ab. semiconfluens Lempke. Tijdschr. Ent. I94I. 84. p. 332. (description vol. 82 p. I97)
Instead of joining the stigmata are united by a double line.

Noct. II6.
p. I.

Cucullia Schrk.

chamomillae Schiff. Wien. Verz. 1775. p. 73.
= fissina Haworth. Lep. Brit. 1809. p. 166.

aberrational forms etc.

ab. chrysanthemi Hubner. Samml. Eur. Schmett. 1819-22. pl. 149 f. 686.

The figure shows a very dark example with the median area especially darkened into a band from costa to inner margin.

The dark appearance is probably due to the artist since he also made the outer margin of the forewings very dark, a character I have never seen in this species.

Noct II7.
p.I.

Cucullia Schrk.

gnaphalii Hubner. Samml. Eur. Schmett. 1809-13. pl. 126 f. 582.
subsp occidentalis Bourne. Rev. Fr. Lep. 1945 10 p. 2
More brown than the *C. gnaphalii* from the same place.

aberrational forms etc.

Noct. II8.
p. I.

Cucullia Schrk.

absinthii. Linn. Faun. Suec. I76I. p. 3I4.
= punctigera Hufn. Berl. Mag. I767. p. 4I6.

aberrational forms etc.

ab. albescens Cockayne. Ent. Rec. I95I. 63 p. 230 pl. 7 f. 4.

The ground colour of the wings is white and all the dark markings are replaced by pale brownish-grey; the thorax and abdomen are white.

Noct. II9.
p. I.

Cucullia Schrk.

verbaschi Linn. Syst. Nat. 1758. X. p. 515.

aberrational forms etc.

Noct. 120.
p. I.

Cucullia Schrk.

lychnitis Rambur. Ann. Soc. Ent. France. 1833. p. 17. pl. I f. 3

aberrational forms etc.

Noct. I2I.
p. I.

Calophasia Stephens.

lunula Hufn. Berl. Mag. I767 (I766?) 3.p.394.
= linariae Schiff. Wien Verz. I775.p.73. (nom. nud.)
= linariae Fabr. Mantissa I787.2.p.I67.

aberrational forms etc.

ab. atrifascia Rebel. Berge's Schmett. I9I0.p.256.

Forewings with a band like middle field, which is filled up with black

ab. cana Dannehl. Ent. Z. I933.47.p. I9.

The ground colour white-grey or milk-grey with a tinge of bluish. Characterised by being not olive-brown but suffused or marked with pale olive-grey so that everything appears weak and very unicolorous.

ab. bilunulata Warnecke. Int. Ent. Z. I933.27.p.369.pl. fig.2.

On the forewings as well as the white reniform the orbicular is also lightened becoming white with a black surround. The base is also lightened to white. The figure shows these two characters very well.

ab. nigrata Kiefer. Ent. Rdsch. I9I3.30.p.32.

The ground colour not fawn as the type but deep, dark grey, the black longitudinal rays consequently less prominent; between these there are separate light streaks. The sickle shaped reniform is pure white, the claviform muddy but still distinct, the orbicular heavily dusted. The thin transverse lines bordering the middle area are light brownish and reach from the inner margin only as far as the stigmata, the fringes normal. Hindwings grey with indistinct blackish marginal band. Apparently a melanic form but with the reniform remaining white.

ab. melanotica Strand. Arch. Naturg. I9I5.8I. A I2.p. I47.

= atrivestris Dannehl. Ent. Z. I926.39.p. I98.

Melanistic. The markings of the forewings fairly well extinguished or blotted out.

Presumably the dark ground covers the markings to blot them out. The white reniform is not mentioned so this is also apparently hidden by a dark suffusion. Since this is not certain, it is separated from the preceding which still retains the white lunule or reniform.

Dannehl's atrivestris had the ground colour brownish black-grey because of which the markings were less expressed. This would seem to be the same form but, again, the white lunule is not mentioned.

ab. stempfferi Boursin. Encyc. Ent. I926. Ser. B. 3. Lep. I. p. I09. fig. p. IIO.

General colour is grey-blackish, without any trace of yellow or brown; on the forewings the markings are very much obliterated, the claviform, which normally is represented by a slender black line strongly prolonged by white, is in this form indicated by a longer and more sharply defined black line hardly surrounded with whitish at the tip. The ante and postmedian only represented near the inner margin, the space between them darker than rest of wing, the lower margin of the cell outlined in black, orbicular hardly indicated by a small paler clearing which is very elongated. The reniform indicated by a delicate black spot, surrounded with whitish. No trace of the subterminal black arrow-head markings, in their place and following their outline a black shadow descending obliquely from apex to inner margin. Hindwings normal.

The figure shows the markings all very suffused and indefinite except for a blackish square in the middle of the inner margin, the white lunule is absent, there being only a lighter shading where it is normally situated.

ab. *extensa* Richardson. Entom. 1958. 91. p. 212; pl. 4, f. 7.

There is an extended white area below and outside the reniform stigma on the forewings, bounded by a darker terminal area, strongly angulated on its inner margin. The basal area is also paler than normal. The pale basal area on the hindwings somewhat reduced.

aberrational forms etc.

hispida Hubner-Geyer. Samml. Eur. Schmett. I828-32. pl. I66 f. 784.
This is now regarded as a separate species.

intermedia Tutt. Entom. I889.22. p. I37.

This is also regarded as a species. Described as an aberration of hispida Hbn. Gey. from the West of France.

ab. pallida Tutt. Entom. I889.22. p. I37.

Ground colour grey, very pale with a slight brown tinge; costa very pale, whitish-ochreous; a broad white line at the hindmargin; fringes white. Hindwings white with scarcely a trace of the grey marginal border and only the basal part of the grey transverse line; fringes white. An extreme form of ab. argentea Tutt.

ab. argentea Tutt. Entom. I889.22. p. I37.

Ground colour dark brown, with longitudinal nervures and basal transverse lines white; orbicular and reniform white, with a faint yellow tinge; a transverse grey (almost steel-grey) band beyond the reniform, and a broad white line parallel to the hindmargin. Hindwings white, with a broken grey hindmarginal band and a grey transverse line; fringes white. The ground colour of the ♀ is darker.

ab. obsoleta Tutt. Entom. I889.22. p. I37.

Ground colour dull grey, with very few pale markings; a pale abbreviated transverse basal line, a complete one just before the orbicular, a bifurcate transverse median line, extending under orbicular to the reniform and the central part of the basal nervures, are the only pale markings, besides the orbicular, reniform and a line parallel to the hindmargin. There is scarcely a trace of the ordinary pale markings between the reniform area and hindmargin. Hindwings as in ab. argentea.

ab. suffusa Tutt. Entom. I889.22. p. I37.

Ground colour dark brown, with the stigmata of deep ochreous colour, the transverse lines and nervures of a whitish ochreous in the ♂, yellow ochreous in the ♀. A fine line bordering the hindmargin, the fringes grey. Hindwings grey in both sexes, with a very dark outer margin, and a dark transverse line, the fringes grey. A most suffused form.

ab. extensa Cockayne. Ent. Rec. I95I.63. p. 229 pl. 7 f. 3.

The dark area between the reniform and orbicular is reduced in size, the dark area distal to the reniform, lying between it and the postmedian line, is pale with a very small blackish streak in the upper part and two larger ones in the lower part. This makes the pattern appear to be very abnormal especially in the distal part of the wing.

Noct. 123.
p. I.

Brachionycha Hbn.

sphinx Hufn. Berl. Mag. 1767.3.p.400.
= cassinea Schiff. Wien Verz. 1775.p.61.

aberrational forms etc.

ab. obscura Hirschke. Verh. zool.-bot. Ges. Wien. 1910.60.p413.
= linstowi Strand. Ent. Z. 1912.25.p.258.
Strongly darkened ground colour and marking.
Strand's linstowi had the wings dark grey.

ab. testacea Heinrich. Dtsch. Ent. Z. (1916) 1917.p.516.
The ground colour clay or loam, instead of whitish-grey.

ab. fusca Cockayne. Ent. Rec. 1954.66.p.66 pl.2 f.4.
Forewing, thorax and abdomen blackish-brown; hindwing dark brown, a little paler
than the forewing.

Noct. I24.
p. I.

Brachionycha Hbn.

nubeculosa Esper. Eur. Schmett. I785.3.pl.48 f.6.
= centrolinea Fabr. Mantissa I787.2.p.I26.
= sphinx Hubn. (nec. Hufn.) Samml. Eur. Schmett. I800-03.pl.2 f.3

aberrational forms etc.

ab. griseus Spuler. Schmett. Eur. I906.I.p.203.
Pale grey without the dark suffusion.
Possibly only racial from Amurland.

ab. perfumosa Warren. Seitz. I9I0.3.p.I2I.pl.29 f. row H.
The whole forewing, except the extreme terminal area and the upper part of the reniform, suffused with blackish fuscous.

ab. perfuscata (Seitz) Heinrich. Dtsch. Ent. Z. (I9I6) I9I7.p.5I6.pl.4 f. II.
Heinrich evidently meant perfumosa Warren, not perfuscata, which does not appear in Seitz at all. The name, author and description are all wrong. The description says - "Strongly darkened specimens especially among the females, in which the black colour predominates and has replaced the grey in the marginal field and on the inner margin." The description does not agree with the figure which agrees more with perfumosa Warren being largely blackened, with the terminal area and the reniform lighter. It would be best not to use the name at all since it is based on a wrong translation of Warren's English description.

ab. suffusa Klemensiewicz. Spraw. Kom. Fizyogr. Krakow. I9I2. 46.p. II.

viminalis Fabricius.

aberrational forms etc.

viminalis Fabr. typical form - - the base fuscous, wavy stripe of fulvous, outer area grey. The description is poor, Borkhausen's *saliceti* is probably a synonym but is separated by most authors as more extreme form with the outer half paler.

ab. *stricta* Esper. Eur. Schmett. Suppl. I787?. p. 30. pl. 84 f. 5.

The palest, least marked form. The latin description says the wings grey, two transverse stripes, lines interrupted black, the *stignata* rufous.

The figure shows the wings silvery-grey with two black transverse lines, the outer one interrupted; the reniform in one figure is rufous but not in the other; the wings have other spots and lines in a darker grey than the ground.

This would seem to be the pale form without heavy markings, the rufous *stignata* however rather separate it from English specimens I have seen.

ab. *scripta* Hubner. Samml. Eur. Schmett. I800-03. fig. 50.

The figure in our copy shows the wings ashy-grey with bold markings, the central area with a transverse median line of strong rufous and another rufous line preceding the subterminal; the reniform is white, the orbicular grey.

ab. *saliceti* Borkhausen. Eur. Schmett. I792. 4. p. 630.

= *semifusca* Petersen. Lep. Faun. Estland. I902. p. I47.

= *seminigra* Culot. Noct. I909-I3. I. p. I2I pl. 2I f. I2.

The basal half of the forewings dark brown, the outer half clear grey as in *B. coryli*.

ab. *fabricii* Strand. Arch. Naturg. I9I5. 8I. A I2. p. I47.

Forewing with the basal half suffused with red-brown.

Hardly worth separating from the preceding but the tint "red-brown" would seem to be unusual in this species.

ab. *intermedia* Tutt. Brit. Noct. I892. 3. p. 5I.

The ground colour suffused with blackish scales, and yet the basal area, the space from the costa through reniform to the inner margin, and the outer marginal area, glossy silver-grey, not whitish-grey as in most Kent specimens but a grey of a decidedly darker tint. The markings distinct.

ab. *obscura* Staudinger. Catl. Ed. 2. I87I. p. II6.

= *suffusa* Warren. Seitz. I9I0. 3. p. I22.

Much darkened (*multo obscurior*).

Warren's *suffusa* would not seem to be any different, the type is in the R. C. K. collection and is a worn example of the dark form which Staudinger was obviously naming.

ab. *unicolor* Tutt. Brit. Noct. I892. 3. p. 5I.

An extreme form of *obscura* Stgr. The whole wing strongly black, absorbing the transverse lines and *stignata*, which are of the same coloration.

ab. *rufescens* Warren. Seitz I9I0. 3. p. I22.

The whole forewing, and the underside of both wings, suffused with rufous.

ab. *vinctuncula* Van Wisselingh. Ent. Ber. (Amsterdam) I957. I7. p. I26.

With a narrow dark band across the middle of the forewings, strongly reminding one of *Miana furuncula* ab. *vinctuncula* Hbn.

Noct. 125.
p. 2.

viminalis Fabr. continued.

lutulenta Schiff. Wien Verz. I775. p. 81.
= electrica Fabricius. Ent. Syst. Em. I794. 3. (2). p. 46.
= fuscus Haworth. Lep. Brit. I803. p. II9 & 204.

aberrational forms etc.

lutulenta Schiff. (Borkh) typical form - -. Forewings unicolorous brown-grey with indistinct markings.

ab. consimilis Stephens Ill. Haust. I829. 2. p. II0.

Female with the forewings nearly of a uniform pale cinereous, the stigmata and fasciae being only visible in certain lights.

ab. orthostigma Stephens. Ill. Haust. I829. 2. p. II0.

Female with the stigmata rather flavescent and distinct, the orbicular rounded, the reniform straight anteriorly and bounded on its outer side with a few whitish spots; hindwings very deep fuscous.

ab. tripuncta Freyer. Neu Beitr. I848. 6. p. 32. pl. 50I f. 3.

Most authors place this as an aberration of lutulenta but it may well belong to A. nigra since the author likens it to aethiops and pancratii both of which are black. The description says the forewings are dark black-brown, the stigmata weakly visible, in the lower half of the reniform there are three white spots, one on the inner side and two on the outer. This is the distinguishing character. The position of the white spots is nearer lutulenta, those of nigra being all on the outer side and in a straight line.

ab. pallida Calberla. Iris I888. I. p. 237.

Forewings pale yellow-brown, also head and thorax. The central area is not darker, or only a little darker, but a dark shadow which runs from the costa to the inner margin between the stigmata is very distinct. The stigmata, the borders of the two transverse lines, and the subterminal line are either washed out or somewhat paler yellow-brown than the rest of the wing. The abdomen is more yellowish-grey than in the type form, the hindwings of the ♂ and their fringes are also yellowish those of the ♀ yellowish-brown, not grey as in the type form.

ab. decolor Draudt. Seitz. I934. 3. Suppl. p. I36. pl. I7 row F.

With an ochreous-yellow coloration. Possibly a synonym of the preceding.

ab. brunnea Schawerda. Zts. Ost. Ent. Ver. I929. I4. p. I06.

Distinctly brown, in one example nut-brown, the stigmata somewhat lighter brown, in the lighter ♂ a darker brown transverse band appears. The body and antennae are also brown, not black-brown. Hindwings white with a trace of brown on the margins and in the indication of a central band, in the ♀ quite light brown.

ab. cinerea Burrows. Ent. Rec. I899. II. p. I57.

Of the ashy-grey of ab. consimilis Stephens but with a slightly darker median band, distinctly marked, making the paler stigmata more distinct. All females but one has the hindwings white which is usually characteristic of males, only slightly shaded with grey on the outer margin.

ab. approximata Burrows. Ent. Rec. I899. II. p. I57.

Parallel with ab. sedi Dup. but not the same, the contrast between the median band and the grey outer area less marked. The males with a blackish-fuscous median band on a grey ground of the same tint as ab. cinerea, the females less contrasted. "As this form approaches ab. sedi I would call it approximata". Burrows.

ab. unicolor Burrows. Ent. Rec. I899. II. p. I57.

Of the reddish or brownish-black typical form but with scarcely a trace of the transverse lines, central band or spots.

ab. sedi Duponchel. Hist. Nat. Lep. France. I836. Suppl. 3. p. I96 pl. I8 f. I.

This is not the sedi of Guenee which belongs to the race luneburgensis. The figure and description are of the larger built typical form and it has no dark median area as in the sedi of Guenee.

Not blackish-brown as in the type form but of a grey-reddish and therefore with the markings more distinct but fine. The figure, which agrees well with the description, shows the forewings reddish-grey with a slight purple tinge, all the normal markings fine but distinct, only the very slightest suggestion of darkening in the median area. The hindwings white, with no median row of dots which is usually present in the luneburgensis forms, including the sedi of Guenee.

See below for ab. sedi Guenee under luneburgensis forms.

ab. ? race? luneburgensis Freyer. Neue Beitr. I848. 6. p. 72. pl. 526 f. 2.

The shape appearance etc. of this form is so different from the typical that it is possibly subspecific, or even a species, as declared by A. J. Wightman. The wings are narrower, blacker and the build of the insect, on the whole, smaller and neater. The various aberrational forms belonging to it are different from similar ones in the typical form, the ab. sedi Guen, (nec. Dup.) being one of the most striking. The description says the thorax and forewings black-brown, near to tripuncta but smaller and lacking the white spots in the reniform. Hindwings milky white. The figure shows an insect of the smaller neat build of our Scottish examples. The forewings black-grey with a bluish suffusion, the markings blacker than the ground. The hindwings white with a very distinct median row of black dots. Apparently racial in Scotland, with its ab. sedi Guen.

ab. sedi Guenee. (nom. preoc. Duponchel.) Hist. Nat. I852. 6. Noct. 2. p. 46.

Guenee gives reference to Duponchel's sedi but his description is of a quite different form. The forewings ash-grey with the median area more dark, the lines very distinct. Hindwings in the ♀ with traces of a median line.

This form is the very distinct grey one with prominent dark median band which occurs in Scotland together with luneburgensis. It is difficult to know why Guenee likened it to the sedi of Duponchel which had no median band.

ab. albidilinea Tutt. Brit. Noct. I892. 3. p. 58.

Ground colour almost black with a light silvery edging to the central striga. Belongs to the form luneburgensis.

ab. aterrima Warnecke. Int. Ent. Z. I926. 20. p. 293. Warnecke plate, figures.

Forewings unicolorous coal-black with a bluish shimmer, the normal sharp black bands still showing. Hindwings white with the margins strongly blackened in the ♂, in the ♀ intensely grey-black, the basal third somewhat lighter, thus appearing much darker than in the typical form.

Noct. 126.A.
p. I.

Apor^hhyla Guen.

- nigra Haworth. Lep. Brit. 1809. p. 192.
= nigricans Hubner. Samml. Eur. Schmett. 1809-13 f. 538.
= aethiops Treitschke. Schmett. Eur. 1816-25. 5. (1). p. 184.

aberrational forms etc.

ab. seileri Fuchs. Stett. Ent. Z. 1901. 62. p. 128.

The forewings unicolorous, pure and deep black without coppery sheen, with rich, deep black marking.

Described as a northern form, the southern or typical one having a brownish tint. Haworth however does not mention a brownish tint, specimens often develop this colour with age.

♦

Noct. I27.
p. I.

Aporophyla Guen.

australis Boisd. Ind. Meth. I829. Append. p. 6.
subsp. pascuea Curtis. Brit. Ent. I827. 4. p. I65. (no description)
pascuea Humphrey & Westwood. I843. I. p. I23. pl. 24 f. 2.
= britannica Staudinger. Stett. Ent. Z. I869. 30. p. 9I.

aberrational forms etc.

subsp. pascuea Humphrey & Westwood. the form occurring in England- - - Thorax and forewing very pale buffish white ground colour, somewhat paler than the typical forms which are greyish.

ab. scriptura Freyer. Neu. Beitr. I839. 3. p. 87 pl. 255 f. 2.

The main character would appear to be the paler median area. The forewings grey in basal and outer areas, the middle field whitened. The markings well expressed similar to "writing" or script.

ab. ingenua Freyer. Neu Beitr. I847. 6. p. 42. pl. 508 f. I.

= orientalis Herrich-Schäffer. Syst. Bearb. I850. 2. p. 286. pl. 98 f. 502-3.

= morosa Bellier. Ann. Soc. Ent. Fr. I862. p. 6I6. pl. I4 f. 7.

Thorax and forewings unicolorous blackish iron-grey, the markings as a result very weak, the reniform showing little whitish spots on its lower border. Hindwings ash-grey.

Herrich-Schäffer's orientalis was also iron-grey, the reniform showing two white spots and would appear to be the same form, the figures are also very similar. Bellier's morosa was very dark uniform brown, the markings little apparent, the reniform alone showing grey-yellowish on its outer edge. The figure is also similar to the above.

ab. costata Warren. Seitz. I9I0. 3. p. I23.

The brown tints of the typical form replaced by blackish-fuscous, the costal area of the forewing and the fringe especially darkened.; the lines equally indistinct.

ab. albidior Bang-Haas. Iris. I906. I9. p. I34.

White ground colour and therefore different from other named forms. The strong markings remind one of the English pascuea which however has a much more yellow-brown colour.

Noct. I28.
p. I.

Lithomoia Hbn.

solidaginis Hubner. Samml. Eur. Schmett. I800-03. fig. 256.

aberrational forms etc.

solidaginis Hbn. - - typical form - ground colour grey with a darker middle band.

ab. pallida Tutt. Brit. Noct. I892. 3. p. I09 & IIO.

Pale ashy-grey with much white between the postmedian and subterminal lines and out to the margin; the central shade ill-developed, usually more or less obsolete in this pale form.

ab. cinerascens Staudinger. Cat. Ed. 2. I87I. p. I20.

Ash-grey, almost unicolorous.

There is no reason to suppose this is "dark ashy" as Tutt suggests, or "light greyish" as Lempke states. Staudinger apparently named it because it was unicolorous grey without dark banding.

ab. virgata Tutt. Brit. Noct. I892. 3. p. IIO.

The brown central band is replaced by black, sometimes very intense and sometimes covering not only the central area but extending to the base, when it becomes ab. suffusa.

Tutt mixes two forms in one sentence here, suffusa is given next as a separate form.

ab. suffusa Tutt. Brit. Noct. I892. 3. p. IIO.

= obscura Lutzau. Ent. Z. I90I. I4. p. I55.

The brown central shade replaced by black and extending to the base of the wing. Lutzau's obscura had the basal and central areas of the forewing black.

ab. rangnowi Stichel. Berl. Ent. Z. I908. 53. p. I03 pl. 3 f. I0.

Almost completely black forewings, the reniform whitish with black centre, the subterminal including the W mark also whitish, standing out sharply from the black ground. Hindwings light brown-grey in the basal field gradually becoming darkened towards the margins, with a black marginal line and whitish fringes.

ab. argentea Cockayne. Ent. Rec. I95I. 63. p. 230. pl. 7 f. 5.

On the forewing the basal area is paler than usual; from the basal to the subterminal line there are no markings except a faint shading proximal to the orbicular, darker shading along the costa above the reniform running out to the subterminal line, and faint traces of the postmedian line; the nervures have black scales along them and appear as extremely thin black lines; the subterminal line is distinct, but the markings near the termen are a little reduced. The hindwings are paler than usual.

ab. confluens Lempke. Tijdschr. Ent. I94I. 84. p. 325. (description vol. 82 p. I97.)

The orbicular and reniform forming one single spot, their normal boundary absent at the point of juncture.

Noct. I29.
p. I.

Lithophane Hbn.

semibrunnea Haworth.
= oculata Germar. Fn. Ins. Eur. I836. 9. pl. I8.. .

aberrational forms etc.

ab. clara Lempke. Tijdschr. Ent. I94I. 84. p. 327.

Forewings without the usual dark brown suffusion.

Lempke cites Culot Noct. 2. pl. 56 f. 6 but this figure shows a certain amount of brown along the inner margin.

Noct. I30.

p. I.

Lithophane Hbn.

hepatica *Clerck*

= *socia* Hufn. Berl. Mag. 1766. 3. p. 418.

= *petrificata* Schiff. Wien Verz. 1775. p. 75.

= *petrificosa* Hbn. Samml. Eur. Schmelt. 1800-03. pl. 49 f. 239.

= *petrolignea* Hbn. Verz. 1821. p. 245.

aberrational forms etc.

socia Hufn. typical form - - the ground colour red-brownish.

ab. pallida Tutt. Brit. Noct. 1892. 3. p. 106.

Pale yellow-ochreous, almost entirely unicolorous, with traces of the stigmata hardly discernible, being of the same tint as the ground colour, and occasionally with the slightest trace of a darker central shade and a subterminal line.

ab. umbrosa Esper. Eur. Schmelt. 1788. 4. (2). p. 413. pl. 133 f. 5 & 6.

The ground colour pale yellow mixed with darker yellow, the stigmata rust colour, immediately below them a blackish blotch which runs as far as the base.

Generally accepted as the form with a dark horizontal blackish stripe running from the postmedian transverse line of small dots, to the base.

ab. rufescens Tutt. Brit. Noct. 1892. 3. p. 106 & 107.

Reddish-ochreous, (sometimes strongly red), the markings obsolete, therefore almost unicolorous.

ab. puncta-rufescens Tutt. Brit. Noct. 1892. 3. p. 106 & 107.

Reddish-ochreous with dark shade under the reniform.

ab. suffusa-rufescens Tutt. Brit. Noct. 1892. 3. p. 106 & 107.

Reddish-ochreous, with dark inner margin or longitudinal patch.

ab. nigricans Klemensiewicz. Spraw. Kom. Fizyogr. Krakow. 1912. 46. p. 14.

Much darkened, the forewings blackish.

Noct. I3I. .
p. I.

Lithophane Hbn.

furcifera Hufn. Berl. Mag. 1766. 3. p. 402.
= bifurca Esper. Eur. Schm. 1794. 4. p. 359 pl. 125B f. 6.
= conformis Hbn. Samml. Eur. Schm. 1800-03. pl. 50 f. 243.

aberrational forms etc.

furcifera Hufn. typical form - - pale violet-grey, only a casual immigrant here.

subsp. suffusa Tutt. Brit. Noct. 1892. 3. p. 104.

The British race, very much darker than the Continental form.

Forewings of a deep violet-black, or black with a slight violet tinge.

All the specimens collected, or bred, in Wales are of this form. The grey typical form is so rare in England that the variation is not given here.

Noct. 132.
p. I.

Lithophane Hbn.

leautieri Boisd. Ind. Meth. Add. 1829. p. 6.

subsp. hesperica Boursin. Bull. Mens. Soc. Linn. Lyon. 1957. 26. p. 62.

According to Boursin the specimens from the south of England belong to this race. It is of more sombre tint than the typical form, of a deep grey, sometimes brownish, not of a clear grey.

Noct. I33.
p. I.

Lithophane Hbn.

ornitopus Hufn. Berl. Mag. 1766. 3. p. 309.
=rhizolitha Schiff. Wien Verz. 1775. p. 75.

aberrational forms etc.

subsp. lactipennis Dadd. Ent. Rec. 1911. 23. p. 97.

The English specimens show a conspicuous whiteness when compared with Continental forms which are of a pale bluish-grey with smoky-brown markings. The English form has the smoky markings less distinct, the colour of the orbicular inclining more to yellow than red-brown, thus the whole facies of the insect becomes much paler.

ab. duebenia Strand. Ent. Z. 1912. 25. p. 258.

The area to the right and left of the reniform, and a broad stripe running from the reniform to the hindmargin, deep black, so that it recalls *H. serena*. On the outer margin of the orbicular there is an oblique black spot.

ab. reducta Turner. Ent. Rec. 1946. 58. Suppl. p. (221).

Most of the usually strong brown-grey marking reduced in area and with only a slight tinge of brown marking.

This form hardly applies to English specimens, which are not heavily marked as a whole, but could be used for individuals which show practically no markings.

Noct. I34. .
P. I.

Xylena Ochs.

exsoleta Linn. Syst. Nat. I758. Ed. IO. p. 518.

aberrational forms etc.

ab. pallescens Warren. Seitz. I9IO. 3. p. I27 pl. 3I row D.

All the black-grey shading absent and the whole forewing, except narrowly along the costa, pearly grey. The markings as distinct as in the typical form and the hindwing quite pale fuscous.

ab. obscurata Spuler. Schmett. Eur. I907. I. p. 26I.

The whole forewings darkened, or suffused, brown.

ab. demaculata Lempke. Tijdschr. Ent. I94I. 84. p. 323.

The black cuneiform spots fail.

Noct. I35.
p. I.

Xylena Ochs.

vetusta Hbn. Samml. Eur. Schmiett. 1809-13. f. 459.

aberrational forms etc.

ab. albida Spuler. Schmiett. Eur. 1907. I. p. 261.

A whitish longitudinal shade very much developed, sometimes also at the apex.

ab. brunnea Tutt. Brit. Noct. 1892. 3. p. 107.

The ashy-grey shade which runs along the median nervure and spreads over the the central area is almost entirely absent. These specimens are of a warm brownish ochreous tint, with the inner marginal area of a deep and rich red-brown; This browner form is what we usually know as the Irish form and is much redder than are our own normal British specimens. Scotch examples are occasionally of this form but English specimens appear to be comparatively rare.

ab. suffusa Tutt. Brit. Noct. 1892. 3. p. 108.

Hindwings with nearly two thirds of an intense burnt black (noir-brûlé) as well as the fringe and thorax, the rest of the wings of a more obscure greyish than in the type. Tutt gives this description of Guenee's small Scotch specimen and goes on to say that the size does not matter but the intense black of the inner margin appears to be peculiar to certain specimens from the north of England and Scotland, as well as a tendency to suffusion in the paler parts of the wing. I would include therefore, all such suffused specimens under this varietal name. "Guenee's description is of the hindwings but Tutt apparently is referring to forewings in the latter part of his description."

ab. unicolor Lempke. Tijdschr. Ent. 1941. 84. p. 323.

Forewings unicolorously brownish-yellow, the dark markings fail almost wholly, with the exception of the reniform and the cuneiform spot.

ab. dufayi D'Aldin. Bull. Soc. Ent. Fr. 1915. p. 80.

With the coloration of *X. exsoleta* with the exception of the collar and pterygodes but the forewings are divided into two very distinct shades, the upper longitudinal third is of the colour of the lower third of the wing of *exsoleta*, the two lower thirds are black below the area of the sagitate mark. The sagitate marking is single, the orbicular very confused or jumbled. The author suggest that the insect may be a hybrid of the two *Xylenas*.

Noct. I36.

Xylocampa Guenee.

p. I.

areola Esper. Eur. Schmett. I79I. 4. p. 448. pl. I4I f. 4.
= lithorhiza Borkh. Eur. Schmett. I792. 4. p. 339.
= operosa Hbn. Samml. Eur. Schmett. I803-08. f. 398.

aberrational forms etc.

areola Esper. - -typical form - forewings ash-grey ground.

ab. suffusa Tutt. Brit. Noct. I892. 3. p. 98.

The ground colour blackish-grey with distinct markings, especially the central line, which runs from the base through the claviform and under the orbicular and reniform to the elbowed line. The area around the stigmata and the outer margin is also strongly marked in blackish.

ab. rosea Tutt. Brit. Noct. I892. 3. p. 98.

= rhodana Derenne. Rev. Soc. Ent. Nam. I9I9. I9. p. 38.

The grey ground of the typical form is suffused with rosy.

ab. kanei Rebel. Berge's Schmett. I9I0. Ed. 9. p. 254. (Ent. 29. p. I60. fig. Ent. 34 pl. 4 f. II
= kanei Donovan. Entom. I935. 68. p. 54. (Entom. 34. pl. 4 fig. II.)

Forewings with a dirty white ground colour and brown-yellow markings instead of black.

Rebel referred to the insect figured by Kane in Entom. 34 pl. 4 f. II. Donovan refers to the same figure and says his insect is similar to it, we have this Donovan specimen in the R-C-K. collection, it is pale but not so yellow-brown tinted as the figure by Kane.

ab. wrighti Tams. Ent. Gaz. I95I. 2. p. 208. pl. 6 f. I-2.

The ground colour almost white with the markings sharply picked out in fuscous-black to black.

We have the types in the R.C.K. Collection, it would seem that the ground colour is the same as in the type form but, through the almost complete lack of black scales, appears whiter

ab. hyerensis Strand. Arch. Naturg. I9I5. 8I. A I2. p. I48.

"Much more grey coloured."

The description is somewhat ridiculous, Strand mentions nothing to separate this from Esper's type which was ash-grey, it is taken from Hampson's ab. I which was "much greyer" but Hampson was comparing it with what he considered the type form, brownish-grey. Strand's hyerensis is nothing more than a synonym of the type, it maybe that specimens from Hyeres and Spain are somewhat paler than more northern ones, in which case it is racial and not an ab.. Draudt in Seitz 3 Suppl. v. I37 says it is pale grey and that modesta Warnecke is a synonym, it is the race from S. France Spain, Capri and Central Italy.

ab. pediculata Turner. Ent. Rec. I945. 57. Suppl. p. (2I6)

Occasionally on the middle of the inner margin of the forewing a square black blotch is found joining up with the conspicuous black mass below the stigmata as a pedicel supporting it. This is sometimes imperfectly marked out but not filled. We note those with the perfect marking as ab. pediculata.

ab. deficiens Turner. Ent. Rec. I945. 57. Suppl. p. (2I7)

In both specimens of this form the deep black bar is absent from the base of the forewing, but its continuation remains and bends upwards to the costa forming the darker two "bags" in which the orbicular and reniform are suspended, respectively. The latter has a somewhat similar development but with the orbicular only in a "bag" This developed marking is deep black in both. The rest of the black markings in both examples are two blotches on outer margin. In fact the black area gives the appearance of a fascia extending only half across the wing with the lighter orbicular and reniform lying in it." The description is puzzling.

Noct. 136.
p. 2.

Xylocampa Guenee.

areola Esper. continued.

aberrational forms etc.

ab. pallida Tutt. Brit. Noct. I892. 3. p. 61.

Forewings pale reddish-grey, the inner margin with a minimum of pale green; the central area rather darker, the subterminal area sometimes especially pale, the stigmata and transverse lines very distinct.

ab. capucina Milliere. Icon. I870. 3. p. I65. pl. II6 f. 6.

Forewings unicolorous dark brownish, without the green dusting; the darker markings as a result almost hidden.

ab. subcapucina Turner. Ent. Rec. I943. 55. p. 90.

I give Turner's full note from volume 55 since I cannot determine what he is actually naming. He gives a similar note in vol. 56 and still calls it "ab. nov" although he described and named it the previous year.

"I have to thank my correspondent, Rev. Walter Freer for calling my attention to an uncommon form of capucina. He described it as "a dark chocolate form, very similar to the illustration in South's vol. I. fig. 3". He further says "it does not seem to be so dark a form as I used to come across in the Midlands". Upon looking up my long series (I60) from many localities I have one example taken at Mucking, Essex, of the dark chocolate ground without any but the merest traces of the usual black or black-brown marking. I suggest that this form might well be called ab. subcapucina nov."

It is difficult to decide whether Turner is naming the form not so dark as the Midland examples mentioned by Freer, or the dark chocolate single example which shows only a trace of marking. Presumably from the name, it is the former; if so the description "dark chocolate" is quite wrong, Milliere's figure of the type capucina is not as dark as this would indicate. The figure in South is certainly not dark chocolate.

ab. occulta Harper. Ent. Rec. I96I. 73. p. 24. (fig. Proc. S. Lond. I958(I959) pl. 2 f. 3)
The whole width of the basal area of the forewings is dense black. The silver crescent mark at the anal angle is completely obliterated by a large bar of black pigment, and a thin black submarginal line extends from this to a point just short of the costa. The outer area of the hindwings is shaded with a darker grey than the inner area.

ab. variegata Cockayne. Ent. Rec. I95I. 63. p. 230. pl. 7 f. 7.

The ground colour of the forewing dark brown; the reniform, orbicular and claviform are pale, especially the reniform, and stand out conspicuously on the dark ground; the area distal to the postmedian line is very pale and there is a row of dark dots in it; the margin itself is dark. Hindwing normal.

ab. nigrilinea Cockayne. Ent. Rec. I95I. 63. p. 230. pl. 7 f. 6.

On the forewing the postmedian line is thick and intensely black even where it curves round above the reniform; the basal area, the claviform, and the marginal area are paler than usual, the last named becoming almost white near the inner margin.

ab. obsoleta Lempke. Tijdschr. Ent. I94I. 84. p. 32I.

The dark circumscription of orbicular and reniform fails completely, so that the two stigmata hardly contrast.

ab. juncta Lempke. Tijdschr. Ent. I94I. 84. p. 32I. (description vol. 82 p. I97.)
The orbicular and reniform join up but remain distinct.

ab. confluens Lempke. Tijdschr. Ent. I94I. 84. p. 32I. (description vol. 82. p. I97)
The orbicular and reniform joined forming one single spot, their boundary
absent at the point of juncture.

ab. dentatelineata Lempke. Tijdschr. Ent. I94I. 84. p. 32I.
The outer line black and sharply dentate. (Moreover the example in question
lacks the white spot on the inner margin).
In his Dutch description Lempke says the "second transverse line" which is the
postmedian, not the subterminal which "outer line" might mean.

ab. albida Schneider. Polsk. Pismo. Ent. I9. p. 254.

Noct. I38.
p. I.

Griposia Tams.

aprilina Linn. Syst. Nat. I758. Ed. IO. p. 514.
= runica Schiff. Wien Verz. I775. p. 70.

aberrational forms etc.

ab. virgata Tutt. Brit. Noct. I892. 3. p. 62.

The space between the subterminal and basal line has the black coloration, normally restricted to a central fascia, spread over it so as to form a central band. Tutt then says a specimen approaching this form is figured in Newman's Brit. Moths p. 402 fig. 2. This shows the median area between the ante and postmedian lines blackened. Another specimen is then described as having the central area between the elbowed and basal transverse lines filled with black, making a decided central band.

It would seem that Tutt did not mean "subterminal" in his first description, he apparently meant the elbowed or postmedian line. If the blackened area stretches as far as the subterminal it is hardly a "central" band.

ab. viromelas Slevogt. Soc. Ent. I808. 23. p. 74.

A melanic form in which, by the considerable increase of the black markings, the pale green ground colour of the forewings is very much curtailed.

Tutt's mixed up description has caused some confusion to Continental authors who try to fix his virgata. Slevogt sent a specimen of viromelas to Rebel who thought it was the same as virgata Tutt but Slevogt himself says it was not so extreme as his Type of viromelas being a transitional specimen. This probably was virgata Tutt.

The form would appear to be more extreme than a mere central black band if the green ground is "very much curtailed."

ab. semivirgata Cockayne. Ent. Rec. I944. 56. Suppl. p. (I4I.)

The space between the median line, which crosses the forewing between the reniform and orbicular, is filled in with black, which either completely obliterates or obscures the orbicular. The rest of the wing is normal or more lightly marked than usual. The sharply demarcated narrow black band gives the insect an appearance very different from that of virgata Tutt.

Turner credits Cockayne with the authorship but the bad description is Turner's, he has omitted to say what other line the space is between. Actually it is the space between the median shadow-line and the ante median, the type is in the R. C. K. coll. at Tring.

ab. bouveti Lucas. Ann. Soc. Ent. Fr. I905. p. 51. pl. 5 f. 2-3.

♂ with forewings pale green, ♀ more obscured. The spots, dashes, wedges, etc. which are normally black, are definitely not black.

This is from the latin description, the French one being long and detailed. The excellent figure shows the normal transverse lines present but the black spots etc., so characteristic of the species, absent, a trace of them remains at the bottom of the subterminal line but only in a deeper green tint, not black. The ♂ has a white transverse shade running the whole length of the subterminal on its inner side, the ♀ less so.

ab. brunneomixta Culot. Noct. I909-I3. I. p. I92 pl. 35 f. IO.

The normal green of the forewings is replaced by brown.

The figure shows most of the forewing covered by brown, leaving the inner side of the subterminal, the stigmata and a costal stripe, pale. It appears to be a very faded specimen of viromelas form with the green faded to a whitish and the black to a dirty brown.

ab. xantha Schawerda. Verh. zool. bot. Ges. Wien. I909. 59. p. (327)

The beautiful pale green colour is replaced by a pronounced yellow, in many places brownish, colour.

ab.striata Cockayne. Ent. Rec. 1951. 63. p. 230. pl. 7 f. 8.

On the forewing the black markings between the basal and ante median lines are abnormal; the two black dots on the costa are united, the one in the cell is elongated and wedge-shaped and is united to the transverse black band by a powdering of black scales, there are two long black streaks on the inner marginal side of the median nervure, the second extending from the base to the transverse black band, and then there is another black streak between nervure I and the inner margin. The ante and post median lines are absent, but there is a black band across the wing passing on either side of the orbicular, which has a black centre and is thus obscured; even the two black dots on the costa above the reniform are absent; the postmedian line is represented by a row of indistinct black dots; the subterminal is present but displaced outwards towards the termen.

ab.pallida Kaucki. Polsk. Pismo. Ent. .5. p. 64.

Noct. I39.
p. I.

Eumichtis Hbn.

- adusta Esper. Eur. Schmett. I789.4.p.483 pl. I49 f. I-2.
- = porphyrea Scriba. Beitr. I79I.2.p. I45. pl. IO f. 4.
- = aquilina Borkh. Eur. Schmett. I792.4.p.38I.
- = ~~duplex~~ Haworth. - Lep. Brit. I809.p. I90. (see below as aberration)
- = valida Hubner. Samml. Eur. Schmett. I809-I3 pl. I33 f. 606-08.
- = satura Stephens (nec. Schiff.) Ill. Haust. I829.2.p. I8I.

aberrational forms etc.

adusta Esper. typical form - - brownish-red, darker clouded, with yellowish lines

The following described and named forms are probably local Continental races possessing no particular aberrational character so they are not included here --

- vulturina Freyer. Neu. Beitr. I833. I.p. II9 pl. 63. f. I.
- chardinyi Duponchel. Hist. Nat. Lep. I836. Suppl. 3.p.23I pl. 2I f. 4.
- pavida (Boisduval) Culot. Noct. I909-I3. I.p. I50. pl. 27 f. 7.
- baltica Hering. Stett. Ent. Ztg. I846.p.237.
- vicina Alpher. Mem. Rom. I882.5.p. I63.
- septentrionalis Hoffm. Stett. Ent. Ztg. I893.54.p. I28.
- moesta Stgr. Iris I897. IO.p.335.

ab. virgata Tutt. Brit. Noct. I892.3.p.74.

Pale reddish-brown with the basal, as well as the angulated and subterminal lines, ochreous, almost white; the black bar-like mark well-developed and the space between and directly outside the stigmata dark, forming as it were, a central band. Tutt says this is the palest form of the species and goes on to talk of the Shetland forms which are pale but virgata is not stated as occurring only in Shetland.

ab. duplex Haworth. Lep. Brit. I809.p. I90.

Forewings cloudy brown variegated with grey, a short black line, the transverse lines and stigmata pale; hindwings whitish, margins and veins fuscous. This would appear to be our common British form with little reddish tint.

ab. albilinea Hoffmeyer & Knudsen. Danske Storsommerfugle I938.3.p.3IO.
With prominent, wider, whiter waved line.

ab. aterrima Constanti. Atti. Soc. Nat. Mod. I9I6.3.p. I5.

Seitz says the body and wings deep black and highly glossy, hindwings dusky at margins.

I have not seen the original description.

ab. nera Schawerda. Zts. Ost. Ent. Ver. I928. I3.p.45.

A female with almost completely black wings, the usual white stigmata and transverse lines are blackish, the white marginal line has disappeared in the deep black of the marginal area. The marking is visible. Hindwings are much stronger or deeper black.

This may be a synonym of the preceding.

ab. juncta Lempke. Tijdschr. Ent. 1941. 84. p. 319. (description vol. 82. p. 197)
The orbicular and reniform join but remain distinct.

ab. semiconfluens Lempke. Tijdschr. Ent. 1941. 84. p. 319 (description vol. 82. p. 197)
Instead of joining the stigmata are united by a double line.

aberrational forms etc.

ab. tephra Hubner-Geyer. Samml. Eur. Schmott. I828-32. f. 797.

The figure shows the wings greyish with olive fringes. The greenish tint commonly seen in this species appears to be absent and there is no sign of red on the transverse lines, on the whole the insect is pale but the markings are very distinct

ab. viridicincta Freyer. Neu Beitr. I833. I. p. 39 pl. 21 f. 2.

Forewings white-grey. The orbicular and reniform stand in a darker middle field which is enclosed by two black-brown, toothed, lines.

The coloured figure shows the wings white-grey, the median area bluish-green and forming a distinct central band. On the outside of this the ground colour is very little dusted, so appears pure white, with the darker subterminal traversing it.

ab. aetnea Turati. Nat. Sic. I908. 20. p. 31. pl. 6 f. 25-27.

The ground colour of the forewings black with a very light suffusion of greenish, and not clear grey as in viridicincta Freyer, the spots and striae of a lighter shade than the ground. Hindwings somewhat suffused with black.

ab. albipunctata Siviter-Smith. Ent. Rec. I942. 54. p. 94.

The reniform and orbicular are conspicuous whitish, the centre of the reniform with little or no trace of the pink or ochreous. In the typical form the stigmata are not conspicuous, generally being well broken up by, and mixed, with pink and ochreous, with dark or mixed centres.

ab. coerulescens Siviter-Smith. Ent. Rec. I942. 54. p. 95.

A bluish suffusion noticeable particularly near the hindmargin of the forewings, together with a small pale blue centre to the reniform stigma.

ab. pallido-fasciata Siviter-Smith. Ent. Rec. I942. 54. p. 95.

The angulated band before the subterminal band sprinkled with whitish and pale fuscous, the pink suppressed, and the dark wedges much reduced, giving the effect of a prominent, pale, fuscous band, since the subterminal line is followed by the darker green shade.

ab. nigro-lineata Siviter-Smith. Ent. Rec. I942. 54. p. 95.

A distinct wavy black line running from the costa, between the stigmata, to the centre of the inner margin, in the form of a curve. This well-defined black line contrasts strongly with the indistinctness of the other markings.

ab. intermedia Siviter-Smith. Ent. Rec. I942. 54. p. 95.

Intermediate between the typical form and the pale viridicincta Freyer. There is the slightest trace of pink, mixed ochreous, the markings distinct and the green is mixed with greyish, being lighter than typical forms but greener than viridicincta.

ab. evalensis Siviter-Smith. Ent. Rec. I942. 54. p. 95

Ground colour olive-green (not deep olive-green of type) much suffused with blackish, the dark markings not clear, the ochreous stigmata not distinct and the whole of the forewing well dusted with yellowish but finely. The reniform, itself not very well-defined, is the most conspicuous marking and the general appearance is mixed blackish and yellowish with no definite markings.

ab. atlantica Siviter-Smith. Ent. Rec. 1942. 54. p. 96.

A dark ♀ has a slight purple tinge around the central fascia. The whole of the forewing has a strong suffusion of dark vinous-grey, particularly the central fascia, and the green colour is almost obliterated. The purplish tinge appears on the hind margin, presumably caused by the vinous-grey mixing with some of the bluish scales described in *ab. coerulescens*. There are slight traces of ochreous and greenish near the base. The centre of the indistinct reniform is ochreous, surrounded by whitish and pale grey. The markings are very indistinct and the subterminal line is not so waved as usual. (*ab. evalensis* has yellow dusting and no purplish). The form had a dingy, obscure appearance.

ab. ochracea Siviter-Smith. Ent. Rec. 1942. 54. p. 96.

A paler form. The dark markings, though in most cases reasonably distinct, are not so dark and heavy as in the type form. Neither is the ground colour so dark as the type, it appearing as olive-green, not deep olive-green as the type, and is a distinctive colour from it. The olive-green is shot and dusted with ochreous-yellow, sometimes quite pronounced, especially in the basal area. Red or pink suffusion is always present in greater or lesser degree, sometimes quite strongly. The stigmata are usually wholly, but always in part, suffused pink and yellowish and are not usually very distinct. The definite olive-green colour, with patches of yellowish and pink and the slightly lighter general markings give this form a much lighter green appearance and at once distinguishes it from the type form which appears more drab and uninteresting beside it.

ab. flavescens Siviter-Smith. Ent. Rec. 1942. 54. p. 96.

General appearance paler, slightly marked and distinctly yellow-green, quite distinct from the preceding *ochracea* (which is intermediate this yellowish form and the type form). The ground colour is an even lighter olive-green than in *ochracea*, nor are the dusky markings so heavy or so dark as in that form, many of the markings indeed disappearing altogether. All possess slight suffusions of pink, but it is not strong in colour, nor pronounced in effect, the most distinct feature, however, is a considerable increase in the yellow suffusion over the whole insect. This suffusion is so strong as to make the insects look a very distinct yellow-green, rather than the olive colour of *ochracea*. This yellowing extends in varying degrees to the thorax, body and hindwings also. The stigmata are almost wholly yellowish but with pink present also.

ab. simulans Siviter-Smith. Ent. Rec. 1942. 54. p. 96.

General colouring typical except for a complete absence of any pink suffusion or scales. The typical form should have this red or pinkish coloration and to be typical any specimens must possess this pink suffusion in addition to the other characteristics. The ochreous scaling is not pronounced. The general aspect is like the typical form but lacking the pink coloration makes them look more drab and dull.

ab. albin-ochracea Siviter-Smith. Ent. Rec. 1942. 54. p. 97.

In *ab. flavescens* the stigmata are ochreous, with pink mixed; in *ab. simulans* they are largely whitish with only traces of ochreous. In *ab. ochracea* the stigmata are described as usually wholly but always in part, suffused pinkish and ochreous; the ochreous colour predominates. One example of *ab. ochracea* has the stigmata, particularly the reniform, largely prominent whitish and distinct. This I would call *ab. albin-ochracea*, it is a parallel variety to *ab. albipunctata*, except that the orbicular is not quite as distinct as in that variety.

ab. splendida Siviter-Smith. Ent. Rec. 1942. 54. p. 97.

The most handsome form in which all the markings are clear, with suffusions of pink, ochreous, blue-green and warm, vinous-blackish, all with a strong sprinkling of clear snow-white, giving a dappled appearance not unlike that possessed by *flavicincta*. The white spots on the costa are clear white and the line before the orbicular and the one after the reniform are clear white, blackish-edged. I would include in this form specimens having the two lines edging the central fascia either wholly or largely clear white, with snow-white speckling on the costal and hind-marginal areas particularly, and richly coloured and variegated

subsp. scillonea Richardson. Ent. Gaz. 1958.9.p. 129.pl.9 f.3-4.

From Scilly Islands.

In appearance near to ab. albipunctata Siv. Smith but owing to its darker markings more extreme. The stigmata, especially the reniform, are white or white centred marbled with black, and stand out clearly. Most specimens have markings of a striking blackish tint, though less extreme than in ab. aetnia Tur.. In a few a dark olive-green is more prominent and some are suffused with red.

Noct. I4I.
p. I.

Parastichtis Hbn.

suspecta Hubner. Samml. Eur. Schmiett. I8I4-I7 f. 633.

aberrational forms etc.

suspecta Hbn. typical form - - the forewings dark brown with a tinge of reddish, the markings fine but distinct. The figure is bad.

ab. laevis Duponchel. (nec. Hubner). Hist. Nat. Lep. I826. 6. p. 65. pl. 76 f. 5.
= iners Duponchel. (nec. Treitschke) Hist. Nat. Lep. I836. Suppl. 3. p. 293 pl. 27 f. 2.
Varying from grey-yellowish to grey-ferruginis, the markings distinct.
Duponchel's iners was also grey-yellowish with the markings distinct and hardly to be separated from his laevis. The coloured figures show little difference except that laevis is somewhat darker. The form would seem to be intermediate between the unicolorous dark brown typical, and the more variegated congener Hbn.

ab. congener Hbn. Gey. Samml. Eur. Schmiett. I836. pl. I8I f. 862.
The variegated, two colour form. The figure shows the forewings pale reddish, with the outer margin and inner margin ochreous, the stigmata also ochreous.

ab. variegata Tutt. Brit. Noct. I892. 2. p. I57 & I58.
Forewings bright red but with a distinct ochreous transverse band running parallel to the hind margin.

ab. rufa Tutt. Brit. Noct. I892. 2. p. I57.
Forewing wholly bright red with the ordinary lines and stigmata distinct, but no trace of a paler coloration replacing the ground colour.

ab. pallida Tutt. Brit. Noct. I892. 2. p. I57.
Pale reddish-grey, almost unicolorous, the inner and outer margins being no paler than the rest of the wing, although the subterminal is fairly well marked.

ab. nigrescens Tutt. Brit. Noct. I892. 2. p. I57 & I58.
Dark blackish-red, almost unicolorous, the black being sometimes much more pronounced. The markings are indistinct and merge into the ground colour. Mostly a Northern form, Yorks to Scotland.

ab. grisea Tutt. Brit. Noct. I892. 2. p. I57 & I58.
Dark grey with no tinge of red, almost unicolorous.

ab. nigrescens-variegata Tutt. Brit. Noct. I892. 2. p. I57 & I58.
Blackish red with the outer area pale.

eremita Fabr. Ent. Syst. 3. 1794. 7
protea Schiff. (nom. nud.) Wien. Verz. 1775. p. 84.
= *protea* Esper. (prim. homonym. Stoll. 1772) Eur. Sch. 1790. pl. 150
== *seladonia* Haworth. (prim. homonym. Fabr. 1794.) Lep. Brit. 1809. 199

In the new Edition of South's Moths Brit. Isles p. 239 the name *eremita* Fabr. is given for this species. The description of *eremita* in Ent. Syst. 1794. 3. pt. 2. p. 115 would not seem to apply to our *protea*.

protea Schiff. (Esper) typical form as shown in Esper. Pl. 150 f. 6 is rather pale green, variegated with pale grey and blackish markings.

ab. variegata Tutt. Brit. Noct. 1892. 3. p. 78. (fig. Newman Brit. Moths. p. 413 f. 3.) Forewings black and reddish, with whitish inner margin, stigmata and subterminal area. This has lost the mottling characteristic of the type and the colours are distinctly developed and separated, especially the white markings. It is the *seladonia* var. B of Haworth.

ab. suffusa Tutt. Brit. Noct. 1892. 3. p. 78. (fig. Newman Brit. Moths. p. 413 f. 2.) Forewings black and reddish, pale inner margin, stigmata unicolorous. This is the darkest form of the species.

ab. grisea Warren. Seitz. 1910. 3. p. 134.
The tints of the forewing are merely light and dark grey, with only the least touch of green or brown. Hindwings whitish.

ab. dejecta Warren. Seitz. 1910. 3. p. 134.
Uniformly dark grey with the markings all more or less obscured and the hindwing darker, whereas in *grisea* the pale areas are conspicuous and the hindwing is whitish.

ab. incolorata Warren. Seitz 1910. 3. p. 134.
The ground colour pale or dark grey, without coloured tints except a faint rufous flush along the two folds and the course of the submarginal line.

ab. ochrea Cockayne. Ent. Rec. 1951. 63. p. 231.
The usual pale areas of the forewing, which are whitish in *ab. variegata* Tutt are yellowish-white; the darker areas are ochreous with a tinge of greenish; small black dots or streaks represent traces of the normal black markings, the most conspicuous being a curved line running more or less horizontally from nervure 1 to nervure 2.

ab. nigra Cockayne. Ent. Rec. 1951. 63. p. 231 pl. 7 f. 9.
The forewing entirely blackish-brown with the markings only just visible and the thorax of the same colour. The hindwing darker than normal with the usual bands present.

ab. obsoleta Lempke. Tijdschr. Ent. 1941. 84. p. 320.
Forewings almost unicolorously greenish, the two stigmata and the subterminal line fail completely.

Noct. I43.
p. I.

Dasypolia Guenee.

templi Thnbg. Diss. Ent. Ins. Suec. I792. 4. p. 56.

templi Thnbg. typical form -- the ground colour obscure greenish with the stigmata yellowish.

ab. ochracea Tutt. Brit. Noct. I892. 3. p. 50.

The whole of the forewings of a pale and clear ochreous colour with slightly darker edgings to the pale transverse lines and stigmata, the subterminal line continuous and not broken up into spots by the dark nervures as it is in the darker type.

ab. suffusa Tutt. Brit. Noct. I892. 3. p. 50.

Of a very dark grey with the typical ochreous transverse lines almost obsolete but the darker edgings to these lines showing up still darker than the ground colour, the only ochreous in the forewings being a tiny orbicular and a few obsolete dots following the subterminal. Hindwings grey with two darker transverse lines.

ab. variegata Turati. Nat. Sic. I909. 2I. p. 95. pl. 5 f. 6-7.

The yellow undulating lines not present, only deep black transverse lines. The coloured figure shows the ground colour somewhat dusky yellowish-grey with heavy blackish ante and postmedian lines, the area between them scaled with blackish. The subterminal is also heavily marked in blackish.

- flavicineta Schiff. Wien Verz. I775. p. 72.
- = undulata Goeze. Beitr. I78I. 3. p. 204.
- = aurantia-maculata Goeze. Beitr. I78I. 3. p. 72.
- = discolor De Vill. Linn. Ent. I789. 2. p. 280.
- = flavicineta-major Esp. Eur. Schmett. I789. 4. p. 507 pl. I53 f. I
- = dysodea Esp. Eur. Schmett. I789. 4. p. 510. pl. I53 f. 4.

aberrational forms etc.

ab. calvescens Boisduval. Ind. Meth. I840. p. I27.

Forewings greyish-white, dusted with blackish atoms. Hindwings fuscous. Generally accepted as being paler than the typical form.

ab. albescens Warren. Seitz I9I0. 3. p. I36.

Dull white without grey dusting except in the median area, the upper stigmata also whitish; hindwing paler.

The type is in the R. C. K. coll. at Tring, the main character is the contrasting narrow median band which shows somewhat conspicuously because the rest of the wing lacks the normal clouding.

ab. meridionalis Boisduval. Ind. Meth. I840. p. I27.

Very much darkened (valde obscurior).

Probably the dark form taken in most localities in Britain as an aberration, it is possibly racial on the Continent.

ab. infuscata Porritt. Ent. Mon. Mag. I923. 59. p. 88. fig'd Barrett pl. I69 f. IB.

This is an extreme development of ab. meridionalis Bsd. from which it differs in the complete absence of the orange freckling and the colour of the forewings being entirely black, except that the usual whitish lines show out distinctly. Hindwings smoky-black, but the curved central, and the marginal pale, stripes still showing clearly. Huddersfield.

aberrational forms etc.

ab. subcaerulea Graeser. Berl. Ent. Z. I888. 32. p. 329.

The ground colour of the forewings rather dark blue-grey, which becomes darkened to blackish in the middle field, and moreover often sprinkled with black scales; the stigmata and transverse lines not whitish as in the typical form but hardly paler than the ground. Hindwings, especially in the females are darker grey than in chi or ab. olivacea Steph.

ab. caerulescens Hartig. Ent. Rundsch. I924. 4I. p. 46.

The ground colour of the forewings dark blue-grey, much more bluish and darker than in the typical form. The marking in the ♂ indistinct tending to obsolescence. Hindwings in the ♂ whitish, in the ♀ black-blue.

ab. albofasciata Kiefer. Ent. Rundsch. I9I2. 29. p. 70. fig. 2.

Forewing dark grey with a distinct rather broad, light grey, toothed band. The outer intervening spaces of the band are marked in deep black. The remaining markings towards the base strongly suffused or washed-out. The figure shows this pale band between the median area and the subterminal with black bands on each side of it.

ab. olivacea Stephens. Ill. Haust. I829-3I. 3. p. 325.

Forewings olive-green with four white denticulated strigae, the fourth, or outermost, being composed of white spots with wedge-shaped black marks on their inner edge.

ab. suffusa Robson. Ent. Rec. I89I. 2. p. 84.

"Instead of the pure white of the type, the ground colour is much suffused with grey. It is scarcely so dark as captured olivacea, and is entirely without the greenish hue of that variety, suffusa would be an appropriate name for it." Tutt in his Brit. Noct. 3 p. 44 describes this form as "cold dark-grey" despite the fact that Robson himself says it is not so dark as captured olivacea (which are paler than bred ones). The form therefore is not really dark, merely much suffused with grey and with no greenish tint.

ab. nigrescens Tutt. Brit. Noct. I892. 3. p. 44.

"The usual pale markings replaced by slaty-red colour in the forewings of the ♂, and by dark olive-lead colour in the ♀. The hindwings are paler in the ♂, but as dark, or even darker, than the forewings, in the ♀. An almost melanic form in both sexes, captured here (Huddersfield) both this and last season." This must be the darkest of our English forms but the colour "slaty-red" is somewhat puzzling in connection with this species.

ab. langei Harrison. Ent. Rec. I907. I9. p. 277.

The markings follow those of olivacea except that the subterminal white line is much reduced and tends to disappear, and the black presubterminal wedges are either obsolete or at most merely indicated. The cilia are not conspicuously barred as in olivacea, but are almost uniformly black. The ground colour of the wings is a rather dark slate colour. Underside of forewings instead of having only the costa black and the subterminal line as in olivacea, is wholly black with the merest indication of the line. Hindwings as in olivacea except that the cilia have a black line on them which is not usually present in olivacea. Thorax same colour as ground of forewing, abdomen much darker than olivacea, appearing nearly black.

ab.robsoni Harrison. Ent.Rec.1907.19.p.278.

"Intermediate between the typical form and ab.langei Harrison. The form, while possessing the ground markings of the type, is thickly powdered, except in the white lines, with dark slate scales. It recalls vividly to one's mind Polia var. nigrocincta." (xanthomista Hbn.= nigrocincta Tr.)

ab.variegata Cockayne. Ent.Rec.1951.63.p.231 pl.7 f.10.

This bears some resemblance to olivacea but the white transverse lines are much wider and the stigmata are whiter; the ground colour is pure grey and not greenish. Thorax white with grey markings.

ab.cuneigera Cockayne. Ent.Rec.1951.63.p.231 pl.7 f.11-12.

The aberration has a slightly suffused appearance. On the forewing the median area is filled with dark scales to an unusual degree; the chi mark is less distinct than usual and there is a black stripe along the inner margin in the median area. From the reniform a series of wedge-shaped black marks runs out towards the subterminal line with a sprinkling of black scales between their basal halves.

xanthomista Hbn. Samml. Eur. Schm. 1818-19. f. 647.
= nigrocincta Treits. Schm. Eur. 1825. 5. p. 31.

subsp. statices Gregson. Ent. Mon. Mag. 1869. 6. p. 65.

"On the Continent the species varies very much, some specimens being difficult to separate from flavicincta, whilst others want the yellowish tones which enrich that species; but I have not yet seen or heard of a single specimen of our dark form occurring anywhere except in the Isle of Man, and I think that, as the Manx specimens are all of one type, I shall call them var. statices."

Generally accepted as the name for our British race from I. of Man, Cornwall, etc.

ab. nivescens Staudinger. Cat. 1861 Ed. I. p. 42. fig. Herr.-Sch. pl. 94 f. 482.
Cat. 1871 Ed. 2. p. 97. (description.)

In Ed. I of his Catalogue Staudinger cites the figure in Herrich-Schaffer on plate 94 f. 482 called "nigrocincta". This shows a yellowish ground very little covered with black dusting but a fairly strong median band present and two transverse shades before the margins.

In Ed. 2 Staudinger describes it as strongly or much paled, forewings whitish black and yellow sprinkled. This does not agree with the figure in Herrich-Schaff. in which the forewings are not whitish. Most authors ignore Staudinger's first reference citing H.-Sch. fig. 482 and give his later reference and description, not mentioning the figure at all.

Schawerda names a similar form to the Herrich-Schaffer figure, which is yellow, and says that Staudinger's nivescens is of a white ground. If Staudinger's first reference is taken, citing the yellow ground figure, Schawerda's form is a synonym of it.

ab. heinrichi Schawerda. Ent. Rundsch. 1938. 55. p. 524.

Forewings and thorax pronounced yellowish, especially those of the ♀, in which they are shining golden-yellow. The middle field is dark grey, but the stigmata, the whole of the base, and the outer part, are yellow.

This would seem to be the form figured in Herrich-Schaffer pl. 94 f. 482 which Staudinger had already named nivescens by citing the figure. Schawerda claims that nivescens is white with no trace of rich yellow, black and yellow sprinkled, obviously taking Staudinger's second reference to nivescens in Cat. 1871 Ed. 2. In Cat. 1861 Ed. I. Staudinger names the figure in Herrich-Schaffer and this has priority over the second reference. Schawerda makes no mention of the H.-Sch. figure.

ab. styriaca Hoffmann. Ent. Rundsch. 1911. 28. p. 190.

In both sexes the yellow scaling is absent even when examined with a lens.

In our British race this is a common character and not worth separating as an aberration. The Cornish specimens show more yellow than the I. of Man, the latter often with no yellow at all.

Noct. I47.
p. I.

Eupsilia Hbn.

- transversa Hufn. Berl. Mag. I766.3.p.4I8.
- = flavo-rufescens Tutt. Brit. Noct. I892.3.p.8.
- = flavimaculata Lenz. Osthelder Schmett. Sudbayern I927.p.33I.

aberrational forms etc.

transversa Hufn. typical form - - the ground colour red-brown with the reniform spot yellow between two white ones.
Tutt's flavo-rufescens is therefore a synonym.

ab. satellitia Linnaeus. Syst. Nat. I767. Ed. I2 p.855.
= flavo-satellititia Tutt. Brit. Noct. I892.3.p.8.

The ground colour greyish-brown, the reniform spot yellow.
Tutt wrongly states that the spot is white after giving the Linnaeus latin description which says "puncto flavo". His flavo-satellititia therefore becomes a synonym.

ab. brunnea Lampa. Ent. Tidskr. I885.6.p.76.
= rufo-rufescens Tutt. Brit. Noct. I892.3.p.8.

Lempke who has seen the probable type of brunnea Lampa restrict the form to specimens with red-brown forewings (paler or darker) and with reddish or reddish-orange reniform spot.

Tutt's rufo-rufescens therefore becomes a synonym.

ab. albo-rufescens Tutt. Brit. Noct. I892.3.p.8
= trabanta Huene. Stett. Ent. Z. I90I.62.p.I58. from fig. Esper pl. I69 f.7.
Forewings with red ground colour with the reniform spot white.

Tutt says that the ordinary British form has the forewings "red" but red-brown is much more likely, a pure red satellitia would be remarkable. It is assumed therefore that rufescens is the same as trabanta Huene, with red-brown ground.

ab. rufo-satellititia Tutt. Brit. Noct. I892.3.p.8.
The ground colour greyish-brown with the reniform spot red or rufous.

ab. albipuncta Strand. Archiv. f. Math. og Nat. I903.25.p.I4.
The ground colour as in ab. satellitia Linnaeus, greyish-brown, not the red-brown of albo-rufescens Tutt. The reniform spot white.

ab. brunnior Strand. Archiv. Naturg. I9I5.8I. A I2.p.I49.
The "ab. I." in Hampson's Cat. 6.p.437, which is "browner" in relation to the type form's "bright rufous irrorated with brown". Lempke in Tijdschr. Ent. 84 p.3I2 restricts the name to form with brown forewings lacking the red of the typical transversa group and without the grey of the satellitia group and having the reniform spot white.

ab. brunneor-flavomaculata Lempke. Tijdschr. Ent. I94I.84.p.3II.
Ground colour of the forewings brown, without red or grey, the reniform spot yellow.

ab. brunnior-rufomaculata Lempke. Tijdschr. Ent. I94I.84.p.3II.
Ground colour of the forewings brown, without red or grey, the reniform spot reddish.

ab. ochrea Lenz. Osthelder Schmett. Sudbayern 1927. p. 331.
Brightened with ochre-yellowish, especially in the marginal area.

ab. unicolor Schultz. (Rebel) . Berge's Schmett. 1910. p. 251.
Forewings unicolorous grey, with the reniform lost.
I can find no previous reference to this form.

ab. olivacea Porritt. Ent. Mon. Mag. 1923. 59. p. 87.
Differs from the type in that the usual reddish-brown colour is replaced by dark olivaceous-green, the reniform spot remaining white, or orange as in the type.

ab. nigricans Schulze. Int. Ent. Z. 1910. 4. p. 26.
Forewings grey-brown, powdered with black, all transverse lines sharp and distinctly black. The area between the subterminal and the fringes and also that between the outer transverse line and the middle shadow blackish. The reniform shining white. Between the basal stripe and the first transverse line and between two paler stripes a blackish band as far as the middle of the wing, fringes blackish. Hindwing grey, the paler fringes blackish dusted.

ab. juncta Spuler. Schmett. Eur. 1907. I. p. 258.
The group of small spots in the reniform region are bound together by a curved similarly coloured line on the inner side of the reniform.

Noct. I48.
p. I.

Jodia Hbn.

croceago Schiff. Wien Verz. I775. p. 86.
= fulvago Esper. Eur. Schmett. I789? 4. p. 674. pl. I76 f. 3-4.
= auriago Donovan. Nat. Hist. Brit. Ins. I796. 5. p. I5. pl. I50 f. I.

aberrational forms etc.

croceago Schiff. (Fabricius) typical form - - the ground colour ferrugineis (rust coloured) with white spots on the costa and fuscous stripes.

ab. fulvago Hubner. Beitr. I786. I. (I) p. I2. pl. I f. F.
Corrected to croceago in Beitr. 2. Nachtrag p. I04.
The original description says the forewings pale brick red but because the figure shows a very brownish dark orange colour it has been made an aberration by many authors. In the Beitr. 2 Hubner calls this same insect croceago with references to Schiff. and Fabr. and later gives an excellent figure of croceago in Samml. Eur. Schmett. f. I89. In view of this I think it best to treat fulvago Hubner as the type form, the name is also used by Esper.

ab. niveata Oberthur in Culot. Noct. I9I3-I7. 2. p. 9I. pl. 56 f. 4.
Forewings white-yellowish, very pale and almost without markings. Described from Algeria but obviously an aberration which might occur anywhere.

ab. intermedia Oberthur. Lep. Comp. I923. 20. p. II8.
Intermediate between the following ab. corsica Mabille and the whitish niveata Ob. Less coloured in red-orange than in corsica.
The form is therefore very pale yellowish-pink, paler than corsica which has yellow-whitish wings with a rosy tint.

ab. corsica Mabille. Ann. Soc. Ent. Fr. I867. p. 64I.
Forewings yellowish-whitish with an almost rosy tint peppered with brownish atoms.

ab. latericolor Raynor. Ent. Rec. I90I. I3. p. I86.
The whole of the forewings suffused with a dull brick-red colour, the markings, with the exception of the stigmata which are practically obsolete, normal; the hindwings are pale smoke coloured.

ab. brunneago Lempke. Tijdschr. Ent. I94I. 84. p. 308.
Forewings unicolorously brown-red, markings obsolete except for the white spots on the costa.

ab. derufata Cockayne. Ent. Rec. I95I. 63. p. 23I.
Ground colour of the forewing yellowish-brown with no trace of the normal orange colour; markings normal. Hindwings normal.

Noct, I49.
p. I.

Dasycampa Guenee.

rubiginea Schiff. *Wien Verz.* I775. p. 86.
= *tigerina* Esper. *Eur. Schmett.* I788?. 4. p. 330. pl. I23 f. 3-4.

aberrational forms etc.

ab. *unicolor* Heylaerts. *Tijdschr. Ent.* I889. 33. p. xxxviii.

= *unicolor* Tutt. *Brit. Noct.* I892. 3. p. 7.

Forewings unicolorous brown-yellow without a trace of the black points or spots.

ab. *rubropunctata* Lempke. *Tijdschr. Ent.* I94I. 84. p. 277.

Forewings with reddish dots replacing the normal black ones.

ab. *fereunicolor* Oberthur in Culot. *Noct.* I9I3-I7. 2. p. I6 pl. 40 f. I6.

Transitional to ab. *unicolor*, the preceding. The coloured figure shows the black dots of the normal form very much reduced.

ab. *modestissima* Oberthur in Culot. *Noct.* I9I3-I7. 2. p. I6 pl. 40 f. I4.

Forewings pale yellow-ochre; the transverse shade in the form of a > is rather well indicated.

The figure shows the black spots more or less obsolete.

ab. *delicatula* Oberthur in Culot. *Noct.* I9I3-I7. 2. p. I7 pl. 4I f. I.

Near *unicolor* in appearance but showing a submarginal series of small, lively white, arrow-shaped marks, which is an ornamentation quite unexpected and very delicate.

ab. *graslini* Staudinger. *Cat.* I90I. Ed. 3. p. 2I0. (See Culot *Noct.* 2. pl. 4I f. 3-4.)

Forewings adorned with brown or chestnut, white or yellow.

The variegated colour form which shows these different shades, instead of the normal unicolorous orange-brown, on the forewings.

Culot figures one of Staudinger's co-types which shows the ground colour brown with whitish basal area and whitish subterminal band, the central area also dusted with some whitish scales.

ab. *favrei* Oberthur in Culot. *Noct.* I9I3-I7. 2. p. I7 pl. 4I f. 2.

Is a complete Oberthur of an obscure chestnut-brown with a glossy reflection but with whitish parts beginning to appear on the forewings.

Transitional form to the preceding *graslini* Stgr. the figure shows the stigmata outlined in whitish and a distinct whitish subterminal band.

ab. *completa* Oberthur. *Lep. Comp.* I904. I. p. 63 pl. 4 f. 43.

Forewings shining dark chestnut, almost unicolorous.

The figure shows the forewings with no trace of orange ground, completely dark brown, the markings still perceptible in black.

ab. *modesta* Oberthur. *Lep. Comp.* I904. I. p. 63. pl. 4 f. 42.

Forewings brown, ornamented with yellowish-ochre.

This is also another form of *graslini* but by the figure can stand as a separate form. The figure shows the wings brown except for the stigmata and parts of the costa which are yellowish, the subterminal band is slightly paler than brown ground.

ab. barretti Oberthur. Lep. Comp. I904. I. p. 63. Fig'd Barrett vol. 6 pl. 233 f. 2B. Oberthur names the figure in Barrett which shows the forewings almost without black spots but the chief character being the wide ochraceous border to the hindwings which occupies about one third of the wing, the basal two thirds being of the normal fuscous or perhaps a little paler than normal.

ab. albistigma Dannehl. Ent. Z. I926. 39 p. I97.

Completely unicolorous from pale yellow to black-brown and black red-brown, in which, inside the hardly marked stigma, there are white spots on either side of the kernel, this gives the insect a wholly distinct appearance.

ab. albipunctata Thurner. Mitt. Nat. Inst. Sofia I938. II. p. I55.

Peculiar dark specimens have small white spots in place of the transverse lines sometimes also with white spots at the lower end of the reniform. The ground colour can be called brown-red.

ab. euanthes Schultz. Int. Ent. Z. I930. 24. p. I67.

Ground colour of the forewings brick-red, the marginal band and stigmata cream-yellow, also a few spots in the basal area as well as outside the reniform area cream-yellow.

Merely a particular variation of ab. graslini Stgr.

ab. elsa Schultz. Int. Ent. Z. I930. 24. p. I67.

An extreme increase in the cream-yellow portions of the wing, so that the brick-red ground is confined almost wholly to the central area. In the ♂ Type the pale red-brown ground is almost wholly restricted to the lower part of the central area. The fringes remain of a reddish or yellowish-brown colour.

ab. antemarginalis Dannehl. Ent. Z. I933. 46. p. 260.

Ground colour a fresh yellow-red without shadows, therefore unicolorous throughout, although a sparse uniform spotting is present. The reniform stigmata do not appear different but are replaced by two black spots lying next to each other and sometimes in the middle below these two there is a third, in which case the white stigma stand out clearly in the triangle of black spots. The most conspicuous character however is the distinct concentration of blackish spots before the outer margin which more or less forms a band which does not quite reach either the costal or inner margin but is narrowed towards both. The margins are nicely spotted clear black.

ab. lutescens Cockayne. Ent. Rec. I95I. 63. p. 232.

The ground colour of the forewings and thorax is yellowish-buff with no trace of the usual rufous colour.

ab. obscura Spuler. Schmett. Eur. I907. I. p. 287. pl. 47

ab. lusitanica Spuler. Schmett. Eur. I907. I. p. 287. pl. 47.

Noct. I50.
p. I.

Omphaloscelis Hampson.

lunosa Haworth. Lep. Brit. I809. p. 230.

aberrational forms etc.

lunosa Haworth. typical form - - forewings greyish-reddish, with strong subterminal of black spots. Hindwings whitish with three fuscous spots.

ab. *subjecta* Duponchel. Hist. Nat. Lep. Fr. I836 Suppl. 3. p. 295. pl. 27 f. 3.

= *neurodes* Herrich-Schaffer. Syst. Bearb. I845. 2. pl. 19. f. 94. (I849. p. I99.)

The forewings dark greyish-brown with the veins light and contrasting in the coloured figure; the description says fawn to grey-yellowish, dusted brown.

ab. *humilis* Humphreys & Westwood. Brit. Moths. I843. I. p. I39 pl. 27 f. 7 (fig. 8 dark ab.)

= *pallida* Spuler. Schmiett. Eur. I907. I. p. 247.

Ochre-brown varying to ashy-brown with the costa and veins whitish, the stigmata also outlined whitish.

ab. *lunae* Robson. Young Nat. I888. 9. p. I22.

= *rubra* Vazquez. Boll. Soc. Espan. Hist. Nat. I905. 5. p. I22.

Forewings reddish, the veins not distinct.

Vazquez *rubra* a very pronounced reddish-ochre.

It is impossible to separate every degree of colour so these two forms are considered the same.

ab. *obsoleta* Tutt. Brit. Noct. I892. 2. p. I69.

Forewings pale ochreous with a slight reddish tinge, the pale nervures obsolete; the stigmata distinct but the transverse lines more or less obsolete except the subterminal row of dots which varies much in development.

ab. *rufa* Tutt. Brit. Noct. I892. 2. p. I69-70.

Forewings red or reddish-grey, the nervures pale.

ab. *brunnea* Tutt. Brit. Noct. I892. 2. p. I69 & I70.

Deep dark red-brown, the nervures pale.

ab. *agrotoides* Guenee. Hist. Nat. Ins. (Noct.) I852. 5. p. 367. (Ann. S. Ent. Fr. I839 non. desr.)

Considered by Guenee to be synonymous with the typical form and also the same as ab. *subjecta* Dup. to whom he gave specimens. The description by Duponchel however does not agree with Guenee's, being much paler. Guenee describes *agrotoides* as grey-black, with the veins pale yellowish; Duponchel's description says the wings are sometimes fawn, sometimes grey-yellowish, more or less dusted with brown. This present form, *agrotoides*, is therefore the very dark one not rare in Britain.

ab. *intensa* Turner. Ent. Rec. I938. 50. p. 22.

Similar to ab. *agrotoides* Guen. but differs in the forewings being almost blackish, red-brown, without the light outer marginal band, with the stigmata black but almost obsolescent on account of the dark ground, and without conspicuous veining as in *agrotoides*, and the hindwing evenly dark blackish suffused,

ab. *olivacea* Vazquez. Boll. Soc. Espanola Hist. Nat. 1905. 5. p. 121.

The forewings almost uniform greyish-yellow olive shade. The nervures are not to be seen and the stigmata only slightly indicated.

ab. *nigribasalis* Cockayne. Ent. Rec. 1952. 64. p. 191. pl 8 f. 8.

The area on the forewing between the basal line and the antemedian is filled with black scales; the area between the postmedian and subterminal lines is darker than the rest of the wing.. It is similar to ab. *nigribasalis* Cockayne in *A. lychnidis*.

ab. *postnigrescens* Cockayne. Ent. Rec. 1952. 64. p. 191.

Hindwings to a very great extent covered with black scales; the nervures remain pale and there are a number of pale scales in some of the interneural spaces.

ab. *variegata* Van Wisselingh. Ent. Ber. Amsterdam. 1954. 15. p. 19.

The ground colour of the forewings is, especially in the basal area and outer area, whitish. The central area is a little darker, with a broad dark shadow-line.

Noct. I5I.
p. I.

Agrochola Hbn.

lota Clerck. Icones I759. pl. 8 f. I.

aberrational forms etc.

ab. pallida Tutt. Brit. Noct. I892. 2. p. I6I.

= pallida Heinrich. Dtsch. Ent. Z. I923 Beiheft p. 88.

The ground colour whitish-grey, the black reniform and red edge of the subterminal stand out conspicuously.

lota Clerck. typical form - - the ground colour dark grey or lead-colour.

ab. rufa Tutt. Brit. Noct. I892. 2. p. I6I.

The forewings of a reddish tint. The dark centre to the lower part of the reniform and the ochreous subterminal with its red inner edge are very marked.

ab. suffusa Tutt. Brit. Noct. I892. 2. p. I6I.

The dark lead colour of the type has become almost black. The dark ground colour makes the reniform comparatively inconspicuous, there is also a distinct trace of the central shade.

ab. subdita Warren. Seitz I9I0. 3. p. I5I.

The grey ground is duller and paler in both wings and the black in the lower lobe of the reniform is much reduced.

ab. frigga Skala. Zts. Ost. Ent. Ver. I929. I4. p. 54.

Hindwings with broad, pale marginal band on the upperside.

ab. bipuncta Vorbrodt. (Wehrli i. l.) Schmett. Schweiz. I9I2. I. p. 378.

= bipunctata Wehrli. Mitt. Thurg. Nat. Ges. I9I3. 20. p. 33.

On the forewings there is a second black, brown surrounded, spot which lies on the basal line between the two stigmata; the brown surround uniting them.

Lempke gives the second reference with the description - Between the orbicular and reniform there is a horizontal black spot which unites the two stigmata.

ab. obsoleta Lempke. Tijdschr. Ent. I94I. 84. p. 297.

The dark spot in the lower half of the reniform stigma fails.

ab. nictitans Lempke. Tijdschr. Ent. I94I. 84. p. 297.

The orbicular and reniform stigmata with sharp pale circumscription.

Noct. I52.
p. I.

Agrochola Hbn.

macilenta Hbn. Samml. Eur. Schmett. I808-09. pl. 89 f. 4I8.
= flavilinea Haworth. Lep. Brit. I809. p. 243.

aberrational forms etc.

macilenta Hbn. typical form - - the ground colour ochreous with a fulvous tint, the subterminal reddish outwardly edged with pale, almost whitish colour, the lower part of the reniform blackish.

ab. rufa Horhammer. Ent. Z. I936. 50. p. 359.

In this species there are two forms, the commoner is leather-brownish, the rarer of a bright reddish-ochre, the usually distinct brownish median and marginal lines lost in the ground colour whilst the yellow line on the outside of the marginal line shows stronger

The coloured figure in our copy of Hubner is not leather-brown but since it is not very red-tinted either, this form might include examples with a distinct reddish appearance.

ab. pallida Hofer. Ent. Z. I9I3. 27. p. I6.

The ground colour is pale ochre-yellow, without reddish suffusion. The fringes, thorax and body all of the same colour, without reddish tinge.

ab. straminea Tutt. Brit. Noct. I892. 2. p. I62.

Pale straw-colour, the ground colour therefore much paler than typical. The usual black spot is present in the lower part of the reniform.

ab. obsoleta-straminea Tutt. Brit. Noct. I892. 2. p. I62.

Pale straw-colour, without the distinct central dot.

ab. obsoleta Tutt. Brit. Noct. I892. 2. p. I62.

Deep yellowish or reddish-ochreous but without the characteristic black spot in the lower part of the reniform.

ab. nigrodentata Fuchs. Jahrb. Nass. Ver. I899. 52. p. I35.

Forewing with three black spots at the base and two pronounced transverse lines, the inner one irregularly toothed, the outer regularly and sharply toothed. Normally these lines are indistinct, the outer one marked by fine black spots on the veins.

ab. immaculata Gauckler. Iris. I909. 22. p. I36.

Forewings red-brown, almost without marking. The reniform with its dark spot is absent, equally the reddish towards the inside, whitish-bordered, straight line before the margin, fails.

ab. nudilinea Lempke. Tijdschr. Ent. I94I. 84. p. 298.

The yellow subterminal line of the forewing without red internal edging.

Noct. I53.
p. I.

Agrochola Hbn.

circellaris Hufn. Berl. Mag. I766. 3. p. 404.
= fuscago Esp. Eur. Schmett. I782?. 3. p. 352. pl. 76 f. 5.

aberrational forms etc.

circellaris Hufn. the ground colour pale ochreous, or yellowish with a brownish or reddish tint.

ab. ferruginea Esper. Eur. Schmett. I785. 3. p. 246. pl. 47 f. 6 (nec. 5.)

= undata Vieweg. Tab. Verz. I789. 2. p. I7. pl. I f. 2.

= rubecula Esper. Eur. Schmett. I789?. 4. p. 526. pl. I57. f. 4.

= undosa Borkhausen. Schmett. Eur. I792. 4. p. 783.

= ferruginea Hubner. Samml. Eur. Schmett. I800-03. pl. 38 f. I8I.

= rubrior Nordstrom. Svenska Fjarilar I939. p. I59.

Forewings ferrugineis or rust coloured with two obsolescent blackish bands, the hindwings ochre-coloured with black spot in the middle and the edges blackish.

The figure is extremely bad and the description only can be accepted.

The other forms are treated as synonyms, it is impossible to separate every shade of ferruginous on the strength of these old descriptions.

ab. griseus Lempke. Tijdschr. Ent. I94I. 84. p. 299.

The ground colour of the forewings pale brownish-grey.

ab. suffusa Lempke. Tijdschr. Ent. I94I. 84. p. 299. (macilenta Hbn. S. Eur. Sch. f. 688)

The ground colour of the forewings strongly dusted with dark, especially in the submarginal area.

Lempke renames the macilenta of Hubner.

ab. clara Schultz. Soc. Ent. I906. 2I. p. 3.

A strongly paled form. The ground colour neither ochre-yellow nor light reddish, but on the contrary white, with a slight yellowish tinge, mostly quite without the latter. The darker stripes more or less distinct upon this light ground, sometimes wider sometimes narrower.

ab. fusconervosa Petersen. Lep. Fauna Estland. Ed. I. I902. p. 95.

The veins blackish throughout.

ab. nigridens Fuchs. Stett. Ent. Z. I883. 44. p. 263.

Not only both the transverse lines of the forewing are black but also the veins of the marginal field. Because of this the tooting of the outer transverse line stands out more distinctly on the veins than in the weakly marked circellaris. The colour tone is also different, never appearing reddish but are darkened by a brown dusting.

ab. catenata Dannehl. Ent. Z. I926. 39. p. I88a.

Inside the submarginal line there is a broad band of black narrow oblique patches. Since the author likens the form to catenata Esper (helvola Linn.) this presumably means a band of ray-like marks between the veins instead of an uninterrupted dark band which is more usual.

ab. obsolescens Lempke. Tijdschr. Ent. I94I. 84. p. 299.

The markings of the forewings (transverse lines and stignata) very faint.

Noct. 153.
p.2.

circellaris Hbn. continued.

ab. obsoleta Lempke. Tijdschr. Ent. 1941. 84. p. 300.
The dark spot in the lower half of the reniform fails.

ab. maculata Lempke. Tijdschr. Ent. 1941. 84. p. 300.
The reniform stigma wholly filled with black.

ab. conjuncta Cockayne. Ent. Rec. 1951. 63. p. 232.
On the forewing there is a black longitudinal streak running from the postmedian line along the median nervure and crossing the lower end of the reniform to a point just below the orbicular.

Noct. I54.
p. I.

Agrochola Hbn.

lychnidis Schiff. Wien Verz. I775. p. 76.
Fabricius. Mantissa Ins. I787. p. I47.

aberrational forms etc.

lychnidis Schiff. (Fabr.) typical form - - the ground colour bright reddish, the markings distinct and the veins light.

ab. pistacina Fabricius. Mantissa Ins. I787. p. I75.
Pale reddish-ochreous, the markings distinct and the veins pale.

ab. serina Esper. Eur. Schmett. I79I. 4. p. 522. pl. I56 f. I-2.
The ground colour yellowish, the markings fairly distinct, black spots on the costa distinct.

ab. rubetra Esper. Eur. Schmett. I79I. 4. p. 523. pl. I56. f. 3-4.
The ground colour fulvous or red-yellow, the costal margin with white and black marks, the transverse lines indistinct, the stigmata not filled with black.

ab. ferrea Haworth. Lep. Brit. I809. p. 23I.
Unicolorous reddish or rust-coloured, with six black spots on the forewing. Apparently there are no other markings, the six spots being the four usually found on the costa (one apical), and the two stigmata which it would seem are filled with blackish.

ab. schoenobaena Esper. Eur. Schmett. I79I?. 4. p. 525. pl. I57 f. 2. (fig. 3 is sp. ?.)
In the ♂ the ground colour is fresh red-brown somewhat mixed with yellowish, the markings indistinct but with several almost lost yellowish stripes.
The figure shows an ochraceous ground colour, more or less devoid of markings except for the oblique mark on the orbicular which is blackish and normal, but two yellowish lines, the postmedian and subterminal are very distinct. This is the only character on which the form, if used at all can be separated. The figure 3 is, in my opinion another species and should not be included.

ab. canaria Esper. Eur. Schmett. I79I?. 4. p. 524. pl. I56. f. 5 & 6.
= nigra Salzl. Mitt. Munch. Ent. Ges. I934. 24. p. 56.
Forewings much darkened with blackish grey-brown but the veins and transverse stripes conspicuously pale yellow, contrasting strongly. Hindwings black-brown. Salzl description of his nigra seems little different.

ab. lineola Donovan. Brit. Ins. I80I. IO. p. 94. pl. 360 f. 2.
= lineola Haworth. Lep. Brit. I809. p. 23I.
Forewings ferruginous-grey with undulated streaks. A small oblique line in the middle and a row of brown points along the exterior margin.
The figure shows the postmedian and subterminal strongly developed which is not mentioned in the description and may be discounted. The insect was named merely on account of the short oblique line which is on the orbicular and present in most specimens of well marked lychnidis. Haworth included it in his Lep. Brit. giving Donovan's Brit. Ins. as reference, it is not "bright red" as Tutt described and the author is not Haworth. Lempke copies Tutt and gives Haworth as the author with Tutt's description bright red. Haworth himself says "ferrugineis", omitting the "griseo" which Donovan coupled with it, but Donovan says it varies from ferrugineis to greyish or livid colour.
The form has no special aberrational character so need not be used, it has crept into literature as a colour form through Tutt's mistake.

ab. sphaerulatina Haworth. Lep. Brit. 1809. p. 230.

Forewings ferruginous, the stripes composed of numerous black spots. Haworth remarks that this may prove to be a variety of rubiginea but differs in having the spots disposed in a more regular manner. It is therefore characterised by the lines of spots.

ab. venosa Haworth. Lep. Brit. 1809. p. 232.

Forewings brown (dirty rust colour), the outer margins fuscous with the veins light-coloured, ferruginous.

ab. caerulescens Calberla. Iris. 1888. I. p. 254.

The forewings bluish-grey or reddish-grey, always without any brown or greenish tinge; the colour resembles *A. litura*. The markings and stigmata in some cases distinct, in others washed out, and the veins in some cases the colour of the wings, in others paler.

ab. pallida Tutt. Brit. Noct. 1892. 2. p. 165 & 166.

The palest form. Forewings pale greyish-ochreous, or yellowish, the stigmata, transverse lines and short dark costal streaks being just traceable in a faint reddish colour. It is almost unicolorous.

ab. obsoleta Tutt. Brit. Noct. 1892. 2. p. 165 & 166.

Forewings pale reddish-ochreous, unicolorous, the markings almost obsolete.

ab. unicolor-brunnea Tutt. Brit. Noct. 1892. 2. p. 165 & 167.

Brown (slightly ochreous) or dull brown, with scarcely any trace of red in the ground colour, and almost unicolorous.

ab. brunnea Tutt. Brit. Noct. 1892. 2. p. 165 & 167.

Brown, with distinct costal streaks, stigmata and transverse lines.

ab. nigrorubida Lempke. Tijdschr. Ent. 1941. 84. p. 295.

Ground colour of the forewings dark red, dusted with black, the nervures and transverse lines red.

ab. silesiaca Schultz. Jahresber. Wien Ent. Ver. (1905) 1906. 16. p. 33.

Forewings darkened to blackish-grey similar to ab. canaria Esper. The longitudinal striae and transverse lines pale yellow and rather distinct. The hindwings black with a lighter fringe. Underside - - the forewings from base to fringe deep black or pitch black without any light colour, the fringe yellow and contrasting; hindwings also deep black except fringe.

The main difference in this form is found on the underside which is uniformly black, with the exception of the fringes. In ab. canaria Esper the underside is light fuscous.

ab. sobria Schawerda. Verh. zool.-bot. Ges. Wien. (1921) 1922. 71. p. 157.

This has the violet red-brown saturated colour of *A. sobrina* or *P. rubricosa*. The stigmata are not darkened with blackish, neither are the costal spots, these are of a darker tone of the violet-red ground. The veins and transverse lines are not yellow but are of the ground colour only somewhat lighter; the transverse band is marked in dark red-brown.

ab. alba Porritt. Ent. Mon. Mag. 1923. 59. p. 87. (fig. Barrett. 5. pl. 227 f. Ig.)

The entire insect-head, thorax, body and all the wings- white, with the faintest tinge of pink. No markings whatever.

ab. metallica Cockerell. Entom. 1889. 22. p. 3. (Entom. II. p. 21.)

Each forewing ornamented with a large blotch of metallic cast near the hindmargin and reaching from the costal to the inner margin, simulating the condition of *Plusia*

ab. nigribasalis Cockayne. Ent. Rec. I95I.63.p.232.pl.7 f.I3.

From the base to the antemedian line of the forewing and from the median nervure to the inner margin is an area thickly covered with black scales; nervure I and the interneural fold between I and the inner margin remain the same colour as the ground; the dark curves of the antemedian line form the distal limit of the conspicuous blackish patch.

ab. fumosa Cockayne. Ent. Rec. I95I.63.p.232

Forewing, thorax and abdomen blackish-brown with the markings slightly darker and the subterminal line slightly paler; the nervures are no lighter than the ground colour; hindwings uniform blackish brown.

ab. conjuncta Cockayne. Ent. Rec. I95I.63.p.232.

The lower ends of the reniform and orbicular stigmata are united by a dark line. This corresponds with *A. litura* ab. *conjuncta* Hofer.

helvola Linn. Syst. Nat. 1758. Ed. 10. p. 507.
 = rufina Linn. Syst. Nat. 1758. Ed. 10. Appendix p. 822.

aberrational forms etc.

helvola Linn. typical form - - the ground colour reddish, the fasciae dusky, the outer one broader.

Exactly the same description is given for rufina by Linnaeus in the Appendix to the volume so it is treated as a synonym and not an aberrational form as Tutt, Lempke etc. do, they seemed to have missed Linnaeus first description of rufina in the Appendix and give the reference Syst. Nat. 1767. Ed. 12 p. 830 where a very slightly different description is given but reference made to helvola in Syst. Nat. 10, Linnaeus apparently was merely giving it a more descriptive name.

ab. catenata Esper. Eur. Schmett. 1788? 4. p. 327 pl. 123 f. 1 & 2.

Forewings brownish-red mixed with yellowish, towards the outer margin there is band of darker mixture which is bordered on its basal side, between the veins, by black moon-shaped spots and on its outer side bordered by small triangular spots, which give the appearance of chain.

In British specimens it is unusual to find a complete chain of black spots on the outer side of the dark band.

ab. punica Borkhausen. Eur. Schmett. 1792. 4. p. 687.

The ground colour of the forewings is yellowish-purple or a mixture of purple and yellow, the transverse bands reddish-brown, bordered with yellowish; the middle shadow-line brown, the stigmata marked by yellowish rings. The outer transverse band is bordered on both sides by elongate, dark brown, chain-like small spots.

The form is extremely like the preceding catenata Esper which actually Borkhausen was merely renaming. The ground colour however is yellowish-purple whilst Esper's catenata was brownish red so the two may be separated by this very feeble colour difference. All authors seem to have the wrong description of punica probably because of Tutt's error in calling it "ochreous, with dark purplish bands".

Borkhausen called it "The yellowish-purple Coloured Brown-banded Owl."

In my opinion it is a synonym of catenata Esper.

ab. ochrea Tutt. Brit. Noct. 1892. 2. p. 163.

The ground colour ochreous with a greenish tinge, crossed by three distinct transverse fasciae of a reddish colour.

ab. pallae Robson. Young Nat. 1888. 9. p. 122.

Straw coloured, with the markings dark grey.

ab. unicolor Tutt. Brit. Noct. 1892. 2. p. 163.

= uniformis Spuler. Schmett. Eur. 1907. 1. p. 249.

Dull reddish, almost unicolorous with the fasciae indistinct, the latter little distinguishable from the ground colour. This is really only an obsolete form of the same reddish ground as the type.

ab. cinnamomea Fuchs. Soc. Ent. 1903. 18. p. 3.

Forewings unicolorous cinnamon-red, with hardly perceptible markings. A nice colour aberration distinguished by its completely cinnamon-red bright forewings; only weak traces of the markings are present which do not alter the unicolorous character of the red colouring.

Fuchs apparently thought the cinnamon tint sufficient to separate the form from the usual reddish forms. Tutt's unicolor was of the reddish tint of the type so is not synonymous with cinnamomea as Lempke states.

ab. pallescens Warren. Seitz I9I0.3.p.I52.

Paler, dull brown or ochreous-grey, with indistinct or obsolete markings; in particular the hindwings are much whiter with the grey and rufous suffusions usually slighter and more restricted in area. Described from Amasia as an aberration.

ab. extincta Spuler. Schmiett. Eur. I907. I. p. 249.

The markings obsolete.

ab. rufa Buchanan-White Fauna Perthensis 1871 p. 18.
= ab. rufa Tutt. Brit. Noct. I892.2.p.I63.

Bright red, almost unicolorous with the fasciae almost obsolete and only just traceable as darker lines.

ab. nictitans Lempke. Tijdschr. Ent. I94I.84.p.290.

The orbicular and reniform stigmata with very distinct pale circumscription, so that they sharply contrast.

ab. semiconfluens Lempke. Tijdschr. Ent. I94I.84.p.29I. (description vol.82.p.I97)

Instead of actually joining the stigmata are united by a double line.

Noct. I56.
p. I.

Anchoscelis Guen.

litura Linn. Faun. Suec. I76I. p. 320.

aberrational forms etc.

litura Linn. typical form - - Forewings hoary, with four smeary black transverse lines.

This form apparently does not occur in Britain.

ab. polluta Esper. Eur. Schmett. I788?. 4 (2). p. 283 pl. I27 f. 5.

= ornatrix Hbn. - Gey. Samml. Eur. Schmett. I834?. pl. I72 f. 8I3.

The figure in Esper is extremely bad but is evidently meant to represent a very dark form of the species, it is dark greyish-brown with a touch of purplish in the median area.

The figure of ornatrix Hbn. Gey., although smaller would seem to be a better figure of the same form. It is dark purplish grey-brown, slightly paler towards the base.

ab. rufa Tutt. Brit. Noct. I892. 2. p. I7I.

Forewings bright reddish-brown, without pale basal area, the ordinary transverse lines and stigmata genereally well developed.

ab. rufa-pallida Tutt. Brit. Noct. I892. 2. p. I7I.

Forewings bright reddish-brown, with the basal area pale.

ab. borealis Sp. Schneider. Nedenaes Amts. Lep. p. 69. (Ent. Tidskr. I885 p. 74. Lampa.)
= saturata Schultz. Ill. Z. Ent. I900. 5. p. 349.

Forewings purplish-fuscous, with the basal area pale. The author and reference of borealis are from Tutt in Brit. Noct. 2. p. I7I., I have not seen the original description. Lampa description says - forewing inner half blue-grey.

Schultz saturata had the forewings divided into dark and pale areas from the middle shadow, the outer half dark and of the same colour as the middle shadow, the basal area prominently pale, and distinctly contrasting.

ab. ochreata Spuler. Schmett. Eur. I907. I. p. 25I.

Forewings yellowish violet-grey, often with the basal area, from the central shadow-line, marked with ochreous-white.

ab. luteo-grisea Warren. Seitz. I9I0. 3. p. I52.

Pale stone colour with distinct but not prominent markings, the underside paler. Described as an aberration from Anasia.

~~ab. conjuncta Hofer. Verh. zool.-bot. Ges. Wien. (I920) I92I. 70. p. (I73).~~

~~The orbicular and reniform at their lower portions united by a cross bar.~~

~~See next page for synonyms.~~

ab. paradoxa Cockayne. Ent. Rec. I95I. 63. p. 232. pl. 7 f. I4.

The basal area as far as the antemedian line and the marginal area from the post median line to the termen are powdered with grey scales; the median area is pale rufous without the usual median shade and is bounded on each side by a pale line; the stigmata are normal and the usual subapical black mark is present. The pale median area contrasts sharply with the dark areas on each side of it.

Noct. 156.
p. 2.

Anchoscelis Guen.

litura Linn. continued.

ab. conjuncta Hofer. Verh. zool.-bot. Ges. Wien. (1920) 1921. 70. p. (173).
= *semiconfluens* Lempke. Tijdschr. Ent. 1941. 84. p. 291. (description vol. 82 p. 197)
The orbicular and reniform in their lower part are united by cross branch.
Lempke's semiconfluens had the stigmata united by a double line which would seem to be the same form.

? xerampelina Esper. Eur. Schmett. 1798. 4. (2). p. 15 pl. 183 f. 5.

See *Journal of the Entomological Society of America* 1933. 24. 1. 1. 1. 1.

aberrational forms etc.

xerampelina Esper. typical form ? - The ground colour dark reddish, in the middle somewhat blackish; the markings very simple, two fine pale yellowish lines and the reniform outlined in yellowish; the margins dark brown.

ab. centrago Haworth. Lep. Brit. 1809. p. 236.

Forewings orange or golden-yellow, the median fascia and outer margins somewhat fuscous.

Haworth states that the description is not complete and that the form is very close to Hubner's figure of xerampelina (Samml. Eur. Schmett. f. 421), in which the fascia and outer margins are reddish-purple. It is generally accepted as our usual English form, the dark reddish typical form being rare.

ab. unicolor Staudinger. Cat. Ed. 2. 1871. p. 116.

= obscura Cockerell. Entom. 1889. 22. p. 55. (see Entom. 16. p. 236.)

Forewings almost unicolorous reddish with two yellow transverse lines.

Cockerell's obscura had the forewings ferruginous-purple, the median fascia not excavated on its inner border and shown distinctly by thread-like orange lines on either side from costa to inner margin.

ab. nigropicta Schawerda. Verh. zool.-bot. Ges. Wien. (1921) 1922. 71. p. 156.

The reniform stigma black, the lower half of the central band brown-black and the outer margins brown-black.

ab. flava Rebel. Zts. Ost. Ent. Ver. 1933. 18. p. 24.

Ground colour of the forewing citron-yellow without any reddish mixture; the two transverse lines indistinct, white edged on their convex side; the reniform indistinct.

ab. lutea Brombacher. Int. Ent. Z. 1931. 25. p. 144. figs. 1 & 2.

The middle field band is lost on the forewings which are markingless citron-yellow, as far as the very narrow dark marginal field. The ab. pallida Stgr. is also yellow but still shows the bordering on both sides of the middle field; this bordering completely fails in my two specimens.

? ab. pallida Staudinger. Iris 1891. 4. p. 299. *prob. f. 1*

In all parts much paler than typical specimens; forewings unicolorous reddish-yellow or reddish-grey, rarely grey-yellow. They possess only the two dark, light bordered transverse lines, and mostly show the somewhat darker but never blackish large reniform which not rarely is completely lost

ab. maculifera Staudinger. Iris 1891. 4. p. 299.

The reniform and basal spot conspicuously blackish.

Possibly a separate species, but described under xerampelina by the author.

ab. nigrescens Lempke. Tijdschr. Ent. 1941. 84. p. 315.

Like ab. centrago Haworth but the central band and outer margin blackish.

Noct. I58.
p. I.

Tiliacea Tutt.

citrago Linn. Syst. Nat. I758. Ed. IO. p. 5I8.

aberrational forms etc.

ab. aurantiago Tutt. Brit. Noct. I892. 3. p. 9.

The ground colour of the forewings of a distinct orange-red colour instead of the yellow of the typical form, otherwise marked like the type.

ab. subflava Eversmann. Bull. Mosc. I848. 3. p. 2I9. (Bull. Mosc. I885. p. 37I. I856. pl. I f3)
Forewings ochraceous brown but the middle field citron-yellow, traversed by a brown median shadow.

In other words, and as most authors describe it, the basal and outer areas are brownish-ochraceous, leaving the middle field citron-yellow.

ab. incolorata Warren. Seitz I9II. 3. p. I56.

The ground colour of the forewings pure pale ochreous, without any orange freckling the veins and lines faintly brownish, the stigmata all but obsolete, the fringe pale hindwing white. Very rare.

ab. umbrata Heinrich. Dtsch. Ent. Zts. (I9I6) I9I7. p. 520.

The central transverse line shows on its outer side a shade of scales, the same colour as the line, and about I mm. wide.

ab. signata Kruger. Soc. Ent. I920. 35. p. I4.

The orbicular is a circular red-brown spot; the reniform is also filled up with red-brown with a weak yellow kernel in the upper and lower halves, giving the impression of a figure of 8. The most notable feature is the red-brown "arrow spot" (claviform) which I have never seen in citrago.

Described as a subspecies but we have an excellent example from the New Forest, only four examples were taken by the author so it is most probably not subspecific.

ab. fasciata Gronblom. Not. Ent. I923. 3. p. IO. fig.

The entire area between the central line and postmedian transverse line appears shaded with brown.

ab. rhodotaenia Schawerda. Iris .56. p. IO5.

ab. culoti Schawerda. Iris. .56. p. IO5.

Noct. I59.
p. I.

Tiliacea Tutt.

aurago Schiff. Wien Verz. I775. p. 86.
= praetexta Esper. Eur. Schmett. I788?. 4. p. 338. pl. I24 f. 2.
= rutilago Fabricius. Mantissa Ins. I787. 2. p. I60. (description
below.)

aberrational forms etc.

ab. fucata Esper. Eur. Schmett. I788?. 4. p. 341. pl. I24 f. 3 & 4.

Forewings mostly purple-red with lighter reddish-yellow bands, three in number, the central one divided by a reddish line.

Esper calls this the "Reddish Owl-moth with pale Yellow bands.". The figure shows an unusual form with the reddish-yellow median area completely divided by a fairly broad purple red band from the costa to the inner margin. I have never seen the band cut in this manner.

rutilago Fabricius. (see synonyms of type form above.)

There seems to be much confusion over this form, Tutt states that the central area is of a deep orange-red colour and other authors have copied him but there is nothing in the original description to suggest this, actually it would seem to be a synonym of the type form. The description says "The forewings yellow with numerous ferruginous striae and atoms, the stigmata distinct, fascia at base and apex fuscous, the basal one broad at the inner margin." The median area is therefore yellow, not deep reddish-orange. Lempke separates rutilago on account of the numerous atoms etc in the median area, but most, if not all, aurago show this marking and it would seem too feeble a character to separate it from the type form.

aurago Schiff. Fabricius description - - forewings dusky (fuscescentibus) smeared with yellow at the base and apex, the median fascia wide, dentate and yellow. There is no mention of ferruginous atoms etc., worn specimens appear to have none so it cannot be certain that the type form is completely without such markings, no mention is made of the stigmata, which are most constant in aurago, the description is therefore not to be entirely relied on.

ab. virgata Tutt. Brit. Noct. I892. 3. p. I3.

= marmorata Warren. Seitz. I9II. 3. p. I54. (figures completely misleading)

Differs only from the type form by having the central fascia pale orange instead of pale yellow. Tutt then states that the fascia is orange, which suggests a deeper tone.

Warrens marmorata would not seem to merit separation, it had the central fascia thickly mottled with orange. We have the types in the R. C. K. collection and they are merely orange instead of yellow. The figures in Seitz are in no way like them.

ab. unicolor Tutt. Brit. Noct. I892. 3. p. I3.

Pale orange or orange, almost unicolorous, having the dark basal and outer areas almost obsolete, the orange of the central fascia spreading over and occupying the whole of the wing. This is not at all common, the unicolorous varieties usually being more or less purplish and inclining to ab. fucata Esper.

ab. lutea Tutt. Brit. Noct. I892. 3. p. I3.

Clear yellow-orange, unicolorous, with the exception of fine faint wavy reddish lines, almost obsolete, for the basal and elbowed lines, and a very small amount of darker orange shading on the outer edge of the wing beyond the subterminal.

ab. intermixta Wightman. Ent. Rec. I94I. 53. Suppl. p. (36). & I942. Suppl. p. (38)

The basal and outer bands red and yellow mixed, central fascia red and yellow mixed.

Turner gives no author in this first description in vol. 53 but in vol. 54 in the continuation of his supplement he gives Wightman (Whtmn) with further description the rich red bands broken by yellow and the central fascia heavily marked with the band colour, thus producing mottled red and yellow effect over the whole wing.

ab. pyroxesta Dannehl. Ent. Z. I933. 46. p. 260.

Completely unicolorous, the ground colour is a beautiful orange with a violet shimmer.

Described as an aberration of the subsp. purpurago Dannehl, it is slightly more extreme than ab. unicolor Tutt.

ab. pedinea Dannehl. Mitt. Munch. Ent. Ges. I929. I9. p. II5.

An extreme of the unicoloured varieties, white-yellow and completely markingless. Sometimes however very fine relics of the markings can appear as a bluish or reddish suffusion.

ab. senicofluens Van De Pol. Ent. Ber. (Amst.). 196. 23. p. 63.

The orbicular and reniform connected by a narrow isthmus.

ab. reducta Van De Pol. Ent. Ber. (Amst.). 196. 23. p. 64.

The orbicular and reniform scarcely indicated, the last markings of the subsp. reduced.

Noct. I60.
p. I.

Citria Hbn.

- lutea Strom. Danske Vid. Sel. Skrift. I783. fig. 26. p. 78.
- = flavago Fab. Mantissa Ins. I787. 2. p. I60.
- = ochreago Borkh. Schmett. Eur. I792. 4. p. 671.
- = rubago Donovan. Brit. Ins. I801. 10. p. 338 fig. 2.
- = silago Hbn. Samml. Eur. Schmett. I800-03. pl. 40 f. I91.

aberrational forms etc.

ab. togata Esper. Eur. Schmett. I788. 4. p. 336. pl. I24 f. I.

Separated by most authors as an aberration in which the oblique purplish band is in the form of three lines of spots which are more or less connected transversely, but it should really be placed as a synonym of the type since Esper himself says these lines are sometimes joined into one single band.

lutea Strom. the typical form - - forewings orange-yellow with complete purplish middle band.

ochreago Borkh. is placed as a synonym, some authors separate it because in the description the band is said to be reddish (instead of purplish), there is every intermediate shade between the two and it would be difficult to draw a line, the figure of silago in Hubner also shows a red band but is considered a synonym of the type.

ab. aurantia Lempke. Tijdschr. Ent. I941. 84. p. 309.

Ground colour of the forewings deep orange.

ab. obsoleta Lempke. Tijdschr. Ent. I941. 84. p. 309.

The dark central band of the forewings obsolete.

ab. stupenda Schwingenschuss. Zts. Wien. Ent. Ges. I953. 38. p. 219.

An extreme form of ab. togata Esper. Forewings deep yellow, markingless except for two small brown spots near the base and rudiments of the three lines of the median fascia. Normally these three lines are all joined into a complete median fascia.

ab. clara Cockayne. Ent. Rec. I951. 63. p. 233.

On the forewings there is the usual dark purplish mark on the costa near the base, a dark purplish band running from the costa along the proximal side of the reniform to the inner margin, and another, less dark, running more or less parallel to it on the distal side of the reniform; these two transverse bands are united with one another by dark purple along the costa and to the subapical mark, the space between them being lightly dusted with reddish-purple scales; the usual dots or spots on the orange parts of the wing are absent or almost so. The absence of these spots gives the wing an unusually clear appearance. Hindwing normal.

Noct, I6I.
p. I.

Cirrhia Hbn.

icteritia Hufn.
= fulvago Linn. (nom. preoc.) Faun. Suec. I76I. p. II2.
= cerago Fabricius. Mantissa I787.2. p. I59.

aberrational forms etc.

ab. flavescens Esper. Eur. Schmett. I788?.4. p. 322. pl. I22 f.2.

= gilvago Haworth. Lep. Brit. I809. p. 237..

The ground colour citron-yellow, only the costa shows traces of red-yellow, the reniform in the form of a dark spot and a row of fine black spots between it and the margin.

The figure shows the forewings yellow with a reddish fringe and with no markings except the reniform and transverse row of small spots running from costa to inner margin, parallel with the margin.

Haworth's gilvago was sulphur-yellow without clouding, a spot behind the middle and an outer row of fuscous spots.

ab. obsoleta Tutt. Brit. Noct. I892.3. p. IO & II.

Parallel to ab. flavescens Esp. but the ground colour orange-yellow instead of pale yellow.

An unnecessary name, Esper's name flavescens would cover this slightly different shade.

ab. decolor Schultz. Jahresb. Wien Ent. Ver. (I904) I905. I5 .p. 89.

= albescens Doring. Int. Ent. Z. I935. 28. p. 468.

The ground colour of the forewing is not sulphur or citron yellow but cream colour. The markings are not the usual rust brown but particularly paler, light brownish. The black spot of the reniform stands out distinctly. Separated from the type and ab. flavescens Esp. by the complete absence of every sulphur or citron yellow coloration.

Draudt in Seitz 3 Suppl. p. I53 gives a completely wrong description of decolor stating that the markings are completely absent, the reniform stigma also absent. Because of this Doring who obviously had not seen the original description by Schultz, named his albescens, which has the ground colour of the forewings watery-white, the markings washed-out pale red-brown; no trace of yellow on the wings, giving the impression of having been exposed to sunlight for some years but the types were bred in I934. This is the form described by Schultz but Doring in his article gives the description from Seitz, hence his mistake.

Turner in Ent. Rec. 53 Suppl. p. (29) also gives the wrong description, by Draudt.

ab. suffusa Tutt. Brit. Noct. I892.3. p. IO & II.

The markings sienna-brown, inclining to purple, which are strongly pronounced on the costal margins etc., forming a band. The ground colour pale yellow.

ab. virgata Tutt. Brit. Noct. I892.3. p. IO & II.

Parallel to ab. suffusa with a distinct central red band between the central shade and the subterminal line, but the ground colour of an orange tint.

Surely Tutt is wrong in "subterminal," the markings never reach the line of dots which marks the subterminal.

ab. imperfecta Tutt. Brit. Noct. I892.3. p. IO & II.

The red markings indistinct, the ground colour orange-yellow. Parallel to cerago Hbn. which is pale yellow.

An unnecessary name, there is every degree of colour from yellow to orange-yellow.

ab.aurantia Tutt. Brit.Noct.1892.3.p.10 & 11.

Distinct red markings, the ground colour orange-yellow instead of the pale yellow of the type form.

ab.togatoides Snellen. Tijdschr.Ent.1910.53.p.316.

The ground colour of the forewings is not sulphur-yellow but vividly citron-yellow as in togata Esper(lutea Strom.) Head, collar and markings however are as in the type of icteritia.

ab.perauriantia Turner. Ent.Rec.1941.53 Suppl.p.(31).

The ground colour of the forewings orange, not yellow, with much extended and intensified red marking forming a wide irregular band, which in a bright light is strongly purple, such as no other example I have seen possesses.

ab.rubrago Horhammer. Int.Ent.Z.1934.28.p.87 pl.f.8.

The whole colour of forewing is a beautiful warm red ochre. Only the marking design of normal fulvago is clearly to be seen in somewhat brighter reddish-yellow. The stigma dark with a pale centre.

Noct. I62.

Cirrhia Hbn.

p. I.

gilvago Schiff. Wien Verz. 1775. p. 87.

= gilvago Esper. Eur. Schmett. 1791? 4. p. 672. pl. 176 f. 2.

aberrational forms etc.

gilvago Schiff. typical form - - this does not occur in Britain, the ground colour of the forewings ochre-yellowish, the markings grey-brownish. It is occasionally taken as an immigrant.

ab. pallego Hubner. Samml. Eur. Schmett. 1878-09. pl. 94. fig. 442. (nec. fig. 192)

= erythrago Warren. Seitz. 1910. 3. p. 155. pl. 28 row H.

The figure shows the ground colour of the forewings rust-yellowish, the markings of a slightly darker rust colour; the greyish-brown markings of the type form are not present, only transverse lines of rust colour which do not stand out from the ground, thereby giving the wings an almost unicolorous appearance. There is a prominent but small white point in the lower part of the reniform.

Warren renamed this figure erythrago, because Hubner had already named a pallego in ocellaris, but under present rules both can stand. Warren considered it a distinct species but it is now considered a form of gilvago.

ab. cinnamomeago Spuler. Schmett. Eur. 1907. I. p. 253.

The ground colour of the forewings grey cinnamon-red, the indistinct markings violet-grey, the fringes of the hindwing reddish.

ab. griseosignata Spuler. Schmett. Eur. 1907. I. p. 253.

The markings of the forewings light bluish-grey with the exception of the normal blackish spots on the subterminal line. Normally the markings are greyish-brown.

ab. rubra Bang-Haas. Iris 1912. 26. p. 157.

This was described by its author under lineago Guenee (ocellaris Bkh.) with the forewings of a pronounced unicolorous red coloration contrasting strongly with the dusty reddish-grey of the type form. For an unknown reason Draudt, in Seitz 3 Suppl. p. 153, places it in gilvago with the remark that it is similar to ocellaris with very dark marginal area to the forewings and whitish dusted veins and therefore erroneously classified by its author to ocellaris. It is not clear, in view of these remarks, to which species this form belongs, Draudt does not say that he has seen the type specimen yet he describes characters such as "the dark margined forewings and white dusted veins" not mentioned at all by the author. It would be best not to use the name.

ab. derasa Warren. Seitz. 1910. 3. p. 155.

Wholly pale ochreous with only the lower half of the reniform, and the fringe, dark brown. Exactly corresponding to the unmarked form ab. flavescens Esper of icteritia Hufn.

ab. xantheago Schawerda. Verh. zool.-bot. Ges. Wien. 1922. 71. p. 157.

Described under Warren's erythrago (which the author treated as a separate species) the typical form being red whilst xantheago is pale ochre yellow.

erythrago Warren is now considered to be gilvago so xantheago is also. Schawerda gives reference to the figure in Culot Noct. 2. pl. 56 f. 2 but according to Culot this figure is not gilvago (erythrago Warren) but Hubner's fig. 192 which is ocellaris (lineago Guen.)

The confusion created by Hubner's two figures of pallego is great, the first one pl. 40 fig. 192 is ocellaris, the second one pl. 94 fig. 442 is gilvago, renamed erythrago by Warren as a separate species but now considered gilvago.

xantheago Schawerda can stand as the pale ochre yellow form of the rust coloured ab. pallego Hubner of gilvago (fig. 442 in Hubner.)

ab. *gilvagella* Strand. Arch. Naturg. 1915. 81. AI2. p. 149

Much yellower forewings with the dark brownish coloration broken up into bands of spots. The marks before the subterminal line deep black.

ab. *suffusa* Tutt. Brit. Noct. 1892. 3. p. 14.

Forewings ochreous or slightly orange much suffused with a deep fuscous transverse band, extending from the subterminal line to the central shade, through which passes the pale elbowed line; inner margin darker, also the basal area.

The following forms from N. Africa are not included since they are probably confined to local races. - -

austauti Oberthur. Etudes 1881. 6. p. 8.

algorica Bang-Haas. Iris 1912. 26. p. 157.

batnensis Oberthur in Culot. Noct. 1913-17. 2. p. 89. pl. 55. f. 16.

monilifera Oberthur in Culot. Noct. 1913-17. 2. p. 89. pl. 55. f. 15.

rosina Oberthur in Culot. Noct. 1913-17. 2. p. 89. pl. 55. f. 17.

Noct. I63.
p. I.

Cirrhia Hbn.

ocellaris Borkh. Eur. Schmett. I792. 4. p. 647.
= gilvago Hbn. Samml. Eur. Schmett. I800-03. pl. 40 f. I93.

aberrational forms etc.

ocellaris Borkhausen. typical form --- forewings a mixture of leaden-red and grey, the veins standing out as distinctly lighter stripes.

ab. lineago Guenee. Hist. Nat. Ins. Noct. I. I852. p. 396.

Generally accepted as being darker than the type form but is possibly a synonym. The description says "Entirely powdered with grey atoms, with the nervures and median lines lighter or brighter; the stigmata well developed and encircled with lighter; a white spot slightly encircled with blackish at the lower end of the reniform. The subterminal line almost lost in the grey of the ground colour, Hubner's figure gives a false impression."

Presumably the reddish colour of the type form is covered by the grey suffusion since Guenee says Hubner's figure gives a false impression.

ab. carneago Warren. Seitz. I9I0. 3. p. I55. pl. 28 f. row I.

Pink, only the basal and terminal areas faintly greyish, the markings very faint and the fringe pink.

ab. pallego Hubner. Samml. Eur. Schmett. I800-03. pl. 40. f. I92. (nec. f. 442.)

The first of Hubner's figures belongs to ocellaris, the second to gilvago. This ocellaris form is pinkish-ochreous without grey dusting or lines but showing rust coloured markings in place of the normal greyish-brown, thus appearing almost unicolorous. The row of black spots just before the subterminal are present.

ab. punctata Heinrich. Dtsch. Ent. Zts. (I9I6) I9I7. p. 52I.

On the inner side of the subterminal line there is a distinctly marked row of dark brown spots.

ab. intermedia Habich. Jahresber Wien Ent. Ver. (I895) I896. 6. p. 49 pl. I f. 5.

Contains the characteristics of both gilvago and ocellaris in one. All the characteristic markings of gilvago on the reddish grey ground colour of ocellaris, even the chequered fringes of gilvago are present, which neither the type form nor ab. lineago Guen. possess.

None of the authors dealing with this group seem to have seen the original description or coloured figure which is good and shows the ground colour somewhat more ochreous than the description "reddish-grey", the markings are dark grey and bold, especially the middle shadow line.

ab. gilvescens Worsley-Wood. Ent. Mon. Mag. I9I5. 5I. p. I86. (fig'd vol. 47 pl. 3 f. 6.)

As in the preceding intermedia Habich but with pale buff ground colour and the stigmata faintly indicated, the pale inner circumscription absent, and the outer dark line frequently incomplete. Thorax greyish yellow with dark crest.

Noct. 164.
p. I.

Conistra Hbn.

erythrocephala Schiff. Wien Verz. 1775. p. 77.

aberrational forms etc.

erythrocephala Schiff. typical form - - Unicolorous reddish-grey with darker reniform

ab. glabra Hubner. Samml. Eur. Schm. 1808-09. pl. 93 f. 438.

Variegated form, purplish-brown with brownish-white transverse lines, the stigmata outlined in whitish, the costa broadly whitish between the stigmata.

In most specimens of this form the light parts are not whitish, as in our copy of Hubner, but dull ochreous.

ab. rufoglabra Lempke. Tijdschr. Ent. 1941. 84. p. 288.

Forewings dark reddish; costa, the stigmata and submarginal band pale greyish. The red glabra form.

ab. intermedia Lempke. Tijdschr. Ent. 1941. 84. p. 288.

Forewings unicolorous pale reddish or greyish, the costa, stigmata etc., pale grey. The form has the light ground colour of unicolorous forms combined with the pale markings of glabra.

ab. glabra-impunctata Spuler. Schm. Eur. 1907. I. p. 254.

The black reniform spots can, but only very rarely, fail in the palest form of glabra.

The name would presumably cover any glabra form in which the tiny black spots of the reniform are absent.

ab. pallida Tutt. Brit. Noct. 1892. 3. p. 6.

Forewings pale whitish-grey, without the reddish or ochreous of the type, the transverse lines and stigmata indistinct, the lower part of the reniform generally dark.

ab. intricata Culot. Noct. 2. 1913-17. p. 7. pl. 39 f. 2.

Culot credits Guenee with this form giving reference to the figure in Hist. Nat. Spec. Gen. Atlas pl. noct. 8 f. 13. This does not appear to be an erythrocephala form and Guenee credits Boisduval with its authorship and Boisduval's intricata is a synonym of another species - veronicae Hbn. It would be best not to use the name in this species since Culot's form is founded on a misidentification.

ab. caeca Ter Haar. Onze Vlinders 1902-3. p. 215.

= impunctata Spuler. Schm. Eur. 1907. I. p. 254.

The lower part of the reniform not filled with black as in normal specimens. Spuler's impunctata had the black spots in the reniform wanting.

ab. unicolor Lucas. Ann. Soc. Ent. France 1910. 79. p. 482.

= lucasi Oberthur. Culot Noct. 1913-17. 2. p. 8. pl. 39 f. 5.

Forewings of a very shining black, unicolorous.

Oberthur's lucasi, described from the same specimens, sent to him by Lucas, were said to be very deep and shining black-brown, with the subterminal spots and a few small spots near the reniform of a dull black.

ab. ferruginea Lempke. Tijdschr. Ent. 1941. 84. p. 288.

Forewings unicolorous red-brown, the lower half of the reniform blackish.

Noct. I65.
p. I.

Conistra Hbn.

vaccinii Linn. Faun. Suec. I76I. p. 30.
= polita Dup. (nec. Hbn.) Hist. Nat. Lep. Fr. I826. 6. p. I24. pl. 8I

aberrational forms etc.

vaccinii Linn. typical form - - forewings ferruginous (rust coloured) the markings more or less obsolete except a row of seven fuscous spots on the outer margin, the reniform blackish.

ab. spadicea Hubner. Samml. Eur. Schmett. I800-03. pl. 37 f. I79.
The figure shows the forewings reddish-ochreous, the markings present but not distinct, the reniform with lower half black.

ab. rufa Tutt. Brit. Noct. I892. 3. p. 3.
Bright reddish or chestnut, almost unicolorous, the markings almost entirely obsolete.
Very little different from the preceding, or the type form. Tutt gives the type form as dark reddish but the Linnaeus description gave rust coloured.

ab. mixta Staudinger. Cat. 2. I87I. p. II8. (Esper 4. pl. I6I f. 5.)
Forewings on the outer margins and in the middle showing pale fasciae.
Staudinger cites the figure in Esper's Eur. Schmett. which shows the ground colour ochreous with the strong transverse lines dark red-brown, contrasting sharply and giving a variegated effect.

ab. mixta-spadicea Spuler. Schmett. Eur. I907. I. p. 256.
Forms which in addition to their light patterns and greyish-black transverse bands, show the mixta character.
It is impossible to know what Spuler means by this description, it is best not to use it.

ab. mixta-grisea Lenz. Osthelder Schmett. Sudbayern I927. p. 330.
Like mixta Stgr. but with grey middle field.

ab. auronigra Heylaerts. Tijdschr. Ent. I889. 33. p. XXVIII.
= glabroides Fuchs. Stett. Ent. Z. I90I. 62. p. I3I.
The original description says the forewings deep black, a basal spot, the reniform and orbicular stigmata, the subterminal and the fringe, brilliant golden yellow.
The form was described as ligula but Lempke, who has seen the type, states that it is definitely vaccinii and redescribes it in Lamb. 46 p. 40-4I because the original description is misleading as regards colours. Lempke's description is -
Forewings ground colour deep red-brown, the submarginal band and surrounds of the two stigmata reddish-yellow, the ground of the stigmata paler, a small reddish-yellow spot in the basal area. The two transverse lines and the veins in the median area bluish-grey, the median area itself powdered with bluish-grey.
glabroides Fuchs according to Lempke is the same form, the description says -
Bright red-brown, bluish tinged, lighter on the costa, with light leather-yellowish stigmata and a broad leather-yellow watery band before the margin, the two transverse lines and the veins bluish.

ab. canescens Esper. Eur. Schmett. I79I. 4. p. 552 & 554. pl. I62 f. 5 & 6.
There is some doubt as to whether these figures are vaccinii or not, they are not in any way like the species and the description does not help. It would be best not to use the name.

ab. ochrea Tutt. Brit. Noct. I892.3.p.3.

The most ochreous variety of the species. The forewings yellow-ochreous with reddish transverse lines.

ab. variegata Tutt. Brit. Noct. I892.3.p.3.

Similar to the preceding but more marbled with reddish and having the nervures paler than the ground which is yellow-ochreous.

ab. rufa Tutt. Brit. Noct. I892.3.p.3.

The ground colour bright reddish, the markings almost entirely obsolete, therefore almost unicolorous.

Very little different from the typical form, but Tutt described this as "dark reddish", Linnaeus gave "ferruginous" which is rust coloured.

ab. unicolor Tutt. Brit. Noct. I892.3.p.3 & 4.

The ground colour blackish-red, almost unicolorous, the nervures rather paler.

ab. suffusa Tutt. Brit. Noct. I892.3.p.3 & 4.

The ground colour of the normal reddish-ochreous on the extreme outer margin and at the base but the central area around the stigmata of a deep slaty or greyish-black. Occasionally the black occupies the whole area of the wing from the base to the elbowed or subterminal line.

ab. obscura Tutt. Brit. Noct. I892.3.p.3 & 4.

= cinerea Meves. Ent. Tidskr. I9I4.35.p.35.

= grisescens Oberthur in Culot. Noct. I9I3-I7.2.p. I2.pl.39 f. I7.

The whole area of the wing has lost its ochreous or reddish ground and become greyish or greyish-black, the nervures, outlines of stigmata etc, being generally very pale.

Oberthur's grisescens had the grey colour largely spread over the reddish-brown. Meves cinerea was dark ash-grey.

ab. signata Klemensiewicz. Spraw. Kom. Fiz. I898.33.2.p. I4I.

Forewings unicolorous brown-chestnut; a spot at the base, the two stigmata and large submarginal spots of an intense black; the transverse lines almost absent, the rest of the marking completely absent.

ab. nigra Bang-Haas. Iris I907.20.p.74. (now considered abs. of C. alicia Lajong.)
= nigra Lucas. Ann. Soc. Ent. France I9I0.79.p.483.

Almost completely unicolorous black-brown with the markings standing out slightly paler.

Lucas described his nigra as almost uniformly black. Both Lucas and Bang-Haas named specimens from Algeria, Lajonquiere says vaccinii does not occur in N. Africa.

ab. ocellata Spuler. Schmett. Eur. I907. I.p.256.

The watered band (subterminal) is broken up by the dark veins into a row of reddish ochre-yellow black centred eyes which stand out conspicuously from the dark red-brown ground colour of the wing.

ab. flavofasciata Lucas. Ann. Soc. Ent. France I9I0.79.p.483. (now ab. of alicia Lajong.)
Forewings brown mixed with reddish or completely black and show, parallel to the fringe, and not far from it, a very distinct sinuous line composed of a series of yellow spots. The upper part of this line broadens into a very distinct yellow spot which extends to the apex.

Very similar to the preceding but no black spots forming the "eyes" are mentioned so presumably it is without these spots, which is extremely unusual in this species it is now said to belong to the species C. alicia, not to vaccinii.

ab. caerulescens Preissecker & Galvagni. Verh. zool.-bot. Ges. Wien I920.70.p(85).

Distinguished by the bluish frosting of the costa and at least 2/3rds of the inner-marginal part of the central area of the forewings and also the veins and bordering

-lines of the central area; sometimes in the marginal area there are short bluish streaks on the veins. Particularly striking are specimens with rust-yellow and rust-red ground colours.

ab. albovenosa Schawerda. Ent. Rundsch. 1938. 55. p. 524.

Forewings dark red-brown, distinctive due to a fine white vein-marking. Every marking fails, even the dark stigma is hardly visible so that the red-brown wings only possess the white veins.

ab. fusca Schulze. Int. Ent. Z. 1913. 6. p. 305.

= sepiae Meves. Ent. Tidskr. 1914. 35. p. 35.

= fusca Lenz. Osthelder Schmett. Sudbayern 1927 p. 330.

The forewings brown-black the markings as in the type form. Schulze describes a second specimen also brown-black but with ochre-yellow veins and surrounds to the stigmata. Presumably the form was named for the brown-black ground only. Meves sepiae had the forewing sepia coloured (dark brown) with somewhat darker transverse lines and middle shadow, the veins somewhat lighter. It can hardly stand as a different form.

Lenz fusca was described as like glabroides Fuchs but without pale bands. Lenz refers to glabroides as blackish-brown with leather-yellow transverse bands so his fusca is plain blackish-brown.

ab. huebneri Oberthur in Culot. Noct. 1913-17. 2. p. 13 pl. 40 f. 7 & 8.

The description does not fit the figure in Hubner which it is said to represent and the figure by Culot in no way resembles the figure in Hubner. Oberthur cites the figure 178 in Samml. Eur. Schmett. by Hubner and says it is more or less blackish but in our copy at Tring the colour is red-brown with prominent yellow-grey veins and subterminal band, this is the polita of Hubner nec. Wien Verz. and Oberthur is renaming it to avoid confusion.

Culot's description says the forewings are more or less blackish but his figure in colour shows them brownish-grey and nothing like the figure in Hubner.

If used at all the name must be for specimens with the forewings more or less blackish but the description is too vague to be of use. Lempke takes the opposite view and says that Culot's figure must be taken as the type but this would make the name "huebneri" somewhat ridiculous, Oberthur obviously intended the name to replace Hubner's polita, with Hubner's figure as the type. With so many contradictions it would be best not to use the name at all.

ab. robusta Oberthur in Culot. Noct. 1913-17. 2. p. 12. pl. 40 f. 1.

The forewings entirely fawn-yellowish with only the lines and the terminal border ferruginous.

ab. elegans Horhammer. Ent. Z. 1936. 50. p. 359.

Ground colour dark chestnut-brown, the band marking blackish and sharp. In addition it has the markings of glabroides Fuchs which has pale yellow surrounded orbicular pale yellow-filled reniform and a broad yellow marginal band.

ab. obscuropadicea Heinrich. Dtsch. Ent. Zts. (1916) 1917. p. 521.

The forms obscura and spadicea combined.

The description is most indefinite, presumably the form is dark grey with black lines.

ab. spadicea-grisea Oberthur in Culot. Noct. 1913-17. 2. p. 13. pl. 40 f. 3 (as spadicea)

The coloured figure shows the forewings rather pale grey with a dark fuscous transverse band just before the base and another before the subterminal line.

ab. grisea Valle. Anim. Fenn. 1940. 4. p. 342.

Forewings pale grey-yellowish, the markings more or less indistinct.

ab. rufo-caerulescens Lempke. Lamb. 1946. 46. p. 46.

The ground colour ashy-blue, the markings in the basal area, the transverse lines, the outlines of the stigmata, the lower half of the reniform, the costa and a narrow submarginal band bright red.

ab. bicolor Lempke. Tijdschr. Ent. 1941. 84. p. 279.

Basal and marginal areas dark red-brown, central area reddish-yellow, sharply contrasting. The marginal area is divided by a pale yellowish submarginal line.

ab. conspicua Lempke. Tijdschr. Ent. 1941. 84. p. 278.

Ground colour of the forewings unicolorous pale yellow, transverse lines distinct orbicular and reniform for the greater part outlined in black and in the lower half filled with black, before the outer margin a row of sharply contrasting rather large black dots.

ab. brunnescens Lempke. Tijdschr. Ent. 1941. 84. p. 279.

Forewings unicolorous brownish, markings obsolete.

ab. mixta-fusca Lempke. Tijdschr. Ent. 1941. 84. p. 280.

Ground colour of the forewings dark brown to blackish-brown; nervures, circumscription of the stigmata and submarginal band yellowish.

ab. bipunctata Lempke. Tijdschr. Ent. 1941. 84. p. 280.

Not only the reniform but also the orbicular with dark lower half; the rest of the markings normal.

ab. cuneata Lempke. Tijdschr. Ent. 1941. 84. p. 280.

Orbicular and reniform are placed in a dark cuneate spot.

ab. semiconfluens Lempke. Tijdschr. Ent. 1941. 84. p. 280. (description vol. 82. p. 197)

Instead of joining the stigmata are united by a double line.

ab. juncta Lempke. Tijdschr. Ent. 1941. 84. p. 280. (description vol. 82. p. 197)

The orbicular and reniform joined but their contours remain distinct.

ab. polita Schiffermuller. Wien Verz 1775. p. 85. (Fabricius. Mantissa 1787. 2. p. 138)

There is so much doubt about this form that it is best not used; the description by Fabricius is not definite enough to attach it to vaccinii or to ligula. The polita of Hubner is already dealt with under the name huebneri Oberthur (see 3 of these notes.

Noct. I66.
p. I.

Conistra Hbn.

ligula Esper. Eur. Schmett. 1789? 4. p. 595. pl. I66 f. 3.

aberrational forms etc.

ligula Esper. typical form - - dark red-brown, the veins somewhat lighter and similar, black-edged, transverse lines. A short distance from the outer margin there is an excurved uniformly broad band of white colour, divided down the middle by a row of black spots.

ab. albofasciata Lempke. Tijdschr. Ent. 1941. 84. p. 283.

Forewings dark red-brown to blackish-red, before the outer margin a white band but no pale nervures and circumscription of the stigmata.

Very little different from the type form and hardly worth a separate name.

ab. rufofasciata Lempke. Tijdschr. Ent. 1941. 84. p. 283.

Forewings dark red-brown, with light red to light red-brown submarginal band.

ab. subnigra Haworth. Lep. Brit. 1809. p. 234.

Forewings chestnut-black, before the margin a paler band, somewhat interrupted.

ab. subspadicea Staudinger. Cat. 1871. Ed. 2. p. 119.

= spadicea Haworth. nec. Hubner. Lep. Brit. 1809. p. 233.

Lempke in Tijdschr. Ent. 84. p. 283 restricts the name to the form described by Haworth as spadicea.

Forewings unicolorous dark red-brown or reddish-black.

Staudinger's description was rufous or brown, often reticulated with white.

ab. brigensis Boisduval. Gen. Ind. Meth. 1840. p. 148. (See Culot Noct. pl. 40 f. I3)

Wings grey marbled.

Culot who saw Boisduval specimens figures a rather pale grey example with few markings, the subterminal band lighter than the ground.

ab. pulverulenta Oberthur in Culot. Noct. 1913-17. 2. p. 14 pl. 40 f. I2.

Oberthur says "It is the form Graslin described in Ann. Soc. Ent. Fr. 1863 and which comes close to brigensis Bdv." The figure shows the forewings unicolorous brownish-yellow, the markings almost invisible.

ab. turtur Hampson. Cat. Lep. Phal. 1906. 6. p. 456.

"Similar to polita which has the forewings greyish-fuscous, but in turtur the grey markings are distinct and the veins streaked with grey."

This is Hampson's Ab. 3. and separated for no apparent reason since brigensis and most other aberrant forms are made merely synonyms of the type form.

ab. ochrea Tutt. Brit. Noct. 1892. 3. p. 5.

Forewings deep reddish-black, the nervures pale and a distinctly broad ochreous subterminal band making the variety very striking.

ab. canilinea Warren. Geitz 1910. 3. p. 148.

Forewings red-brown or rufous, the inner and outer lines pale leaden-grey or ochreous-grey.

ab. jullieni Culot. Noct. 1913-17. 2. p. 10. pl. 39 f. 13.

The chief character is the regularity of the elbowed line which instead of being scalloped or in the form of spots as in the other species of the genus *Orrhodia*, is here marked by two geminate lines, distinct, regular, without appreciable scallops or dentations and continuous from costa to inner margin. The median shade, instead of travelling obliquely towards the base, descends vertically from the reniform reaching the inner margin beyond the middle.

Described by Culot as a species but Vorbrodt determined it as a form of ligula.

ab. conspadiacea Fuchs. Steett. Ent. Z. 1901. 62. p. 130.

Forewings obscured red-brown, with two black transverse lines which are just about visible. The first is broad and occupies almost the entire basal area, the second narrower and only broadened on both sides at the costa.

The figure in Tijdschr. Ent. 42. pl. 2 f. 6, according to Lempke, represents this form.

ab. rufescens Lempke. Tijdschr. Ent. 1941. 84. p. 282.

Forewings pale (clear) red-brown with distinct markings but without yellow nervure or circumscription of the stigmata.

ab. pseudomixta Lempke. Tijdschr. Ent. 1941. 84. p. 282.

Ground colour of the forewings red-brown; circumscription of the stigmata, nervures and submarginal band yellow.

Very near ochrea Tutt and an unnecessary name.

ab. nigrescens Lempke. Tijdschr. Ent. 1941. 84. p. 283.

Forewings unicolorous brown-black to grey-black, without distinct markings.

ab. obscura Lempke. Tijdschr. Ent. 1941. 84. p. 283.

Forewings brown-black to grey-black, markings distinct, transverse lines and as a rule also the submarginal band, paler, greyish. Extreme examples have the submarginal band whitish.

This form is by many authors identified as the *polita* of Hubner (fig. 178 Samml. Eur. Schm.) which is a *vaccinii*.

ab. bipunctata Lempke. Tijdschr. Ent. 1941. 84. p. 284.

The lower half of the orbicular stigma is also filled with blackish.

ab. bicolor Lempke. Lambillionea. 1946. 46. p. 77.

= *brigensis* Herrich-Schaffer. nec. Boisduval. Syst. Bearb. 1850. 2. p. 322. pl. 89 f. 459.

Described from the figure by Herrich-Schaffer of *brigensis* which is not the *brigensis* of Boisduval which it was supposed to represent.

The basal and outer areas of the forewing dark grey, the subterminal band a little paler, the median area dark red-brown.

This must be a very unusual form with the median area of a different colour from the rest of the wing.

ab. pallida Lempke. Lambillionea 1946. 46. p. 75.

White-greyish, sprinkled with reddish atoms, markings pale red-brown, a pale grey submarginal band, the nervures grey-whitish.

Noct. I67.
p. I.

Cryphia Hbn.

perla Schiff. Wien Verz. 1775. p. 70. (Fabricius. Mant. 1789 p. 173)

aberrational forms etc.

perla Schiffermuller. (Fabricius) typical form - - forewings cloudy grey with black lines, the stigmata fuscus.

ab. flavescens Tutt. Entom. 1888. 21. p. 49.

= lutescens Fuchs. Jahrb. Nassau Ver. Nat. 1889. 42. p. 208.

The whole of the forewings strongly suffused with ochreous or orange-coloured scales.

Fuchs lutescens was bright clay-yellow or clay-brownish suffused.

ab. suffusa Tutt. Entom. 1888. 21. p. 49.

The grey reticulations and marblings which are pale in the type form are in this very dark bluish-black, and suffuse the whole of the wing, absorbing almost all the usual markings; the discoidal spots are however very dark. The hindwings have the space between the two black parallel lines very much obscured, so as to form a broad dark band, the veins are very dark.

The description is very exaggerated, "dark bluish-black" would make the insect the colour of a crow, the form is more of a bluish-grey.

ab. grisea Vorbrodt. Mitt. Schweiz Ent. Ges. 1917. 12. p. 458.

Forewings darkened to dirty grey-brown, so that only a part of the pale ground colour towards the basal spot and in the lower third of the marginal field is left. Hindwings markingless dark grey-brown with a darker spot and a few pale small marginal spots.

ab. subgrisea Turner. (nom. nov. pro. grisea Dufrane) Ent. Rec. 1927. 39 Suppl. p. (37)

= grisescens Dufrane. (nom. nov. pro. grisea Dufrane.) Lambillionea 1930. 30. p. 6.

= dufranei Draudt. (nom. nov. pro. grisea Dufrane.) Seitz 1931. 3. Suppl. n. 19.

= grisea Dufrane. (nom. preoc. Vorbrodt 1917) Rev. Mens. Soc. Ent. Nam. 1925. 25. p. 33.

Characterised by the hindwings being entirely deep grey so that the external lines have disappeared; only the discoidal spot is still just visible, the fine cream-white border crossed by the very dark grey nervures, the fringe cream-white. The forewings not powdered with black as in suffusa Tutt but the markings strong and broadened.

ab. rosina Oberthur in Culot. Noct. 1909-13. I. p. 134 pl. 24 f. 17.

There is no proper description beyond the mention of "less rosy forms occurring in England". By this one assumes that the form is "rosy" but the figure is not by any means rosy, more orange than anything else.

By the name and inference, the colour is rosy.

ab. distincta Tutt. (dictincta in error) Entom. 1888. 21. p. 49. (corrected in Brit. N.

The ground colour white and the discoidal spots dark grey, a grey shade directly under the orbicular, four short dark dashes near the centre of the costa, a short basal streak and a grey shade on the costa near the tip of the wing.

In his original description Tutt, obviously in error, headed this form "dictincta" but in his Brit. Noct. I. p. 8 it is called distincta so presumably he did not even notice the error.

ab. albida Colthrup. Pageant of Nature. 1923. I. p. 193.

Albino. Wings purewhite, the markings visible in very pale silvery-grey.

Noct. I67.
p. I.

Cryphia Hbn.

perla Schiff. Wien Verz. I775. p. 70. (Fabricius. Mant. I789 p. I73

aberrational forms etc.

perla Schiffermuller. (Fabricius) typical form - - forewings cloudy grey with black lines, the stigmata fuscus.

ab. flavescens Tutt. Entom. I888. 2I. p. 49.

= lutescens Fuchs. Jahrb. Nassau Ver. Nat. I889. 42. p. 208.

The whole of the forewings strongly suffused with ochreous or orange-coloured scales.

Fuchs lutescens was bright clay-yellow or clay-brownish suffused.

ab. suffusa Tutt. Entom. I888. 2I. p. 49.

The grey reticulations and marblings which are pale in the type form are in this very dark bluish-black, and suffuse the whole of the wing, absorbing almost all the usual markings; the discoidal spots are however very dark. The hindwings have the space between the two black parallel lines very much obscured, so as to form a broad dark band, the veins are very dark.

The description is very exaggerated, "dark bluish-black" would make the insect the colour of a crow, the form is more of a bluish-grey.

ab. grisea Vorbrodt. Mitt. Schweiz Ent. Ges. I9I7. I2. p. 458.

Forewings darkened to dirty grey-brown, so that only a part of the pale ground colour towards the basal spot and in the lower third of the marginal field is left. Hindwings markingless dark grey-brown with a darker spot and a few pale small marginal spots.

ab. subgrisea Turner. (nom. nov. pro. grisea Dufrane) Ent. Rec. I927. 39 Suppl. p. (37)

= grisescens Dufrane. (nom. nov. pro. grisea Dufrane.) Lambillionea I930. 30. p. 6.

= dufranei Draudt. (nom. nov. pro. grisea Dufrane.) Seitz I93I. 3. Suppl. p. I9.

= grisea Dufrane. (nom. preoc. Vorbrodt I9I7) Rev. Mens. Soc. Ent. Nam. I925. 25. p. 33.

Characterised by the hindwings being entirely deep grey so that the external lines have disappeared; only the discoidal spot is still just visible, the fine cream-white border crossed by the very dark grey nervures, the fringe cream-white. The forewings not powdered with black as in suffusa Tutt but the markings strong and broadened.

ab. rosina Oberthur in Culot. Noct. I909-I3. I. p. I34 pl. 24 f. I7.

There is no proper description beyond the mention of "less rosy forms occurring in England". By this one assumes that the form is "rosy" but the figure is not by any means rosy, more orange than anything else.

By the name and inference, the colour is rosy.

ab. distincta Tutt. (dictincta in error) Entom. I888. 2I. p. 49. (corrected in Brit. N.

The ground colour white and the discoidal spots dark grey, a grey shade directly under the orbicular, four short dark dashes near the centre of the costa, a short basal streak and a grey shade on the costa near the tip of the wing.

In his original description Tutt, obviously in error, headed this form "dictincta" but in his Brit. Noct. I. p. 8 it is called distincta so presumably he did not even notice the error.

ab. albida Colthrup. Pageant of Nature. I923. I. p. I93.

Albino. Wings purewhite, the markings visible in very pale silvery-grey.

ab. *aurolichenea* Cockayne. Ent. Rec. 1951. 63. p. 158.

Ground colour of the forewings dark greenish-orange with the markings obscured as in *ab. suffusa* Tutt; the thorax of the same colour. Hindwing suffused with grey as in *suffusa* but with a faint orange tint in the ground colour.

Noct. I68.
p. I.

Cryphia Hbn.

- muralis Forst. Nov, Spec. Ins. I77I. p. 74.
- = glandifera Schiff. (nom. nud.) Wien. Verz. I775. p. 70.
- = lichenes Fabricius. Spec. Ins. I78I. 2. p. 235.
- = lichenis Esper. Eur. Schmett. I787. 4. pl. II8 f. 8.
- = glandifera Hubn. Samml. Eur. Schmett. I800-03. fig. 24.

aberrational forms etc.

ab.par Hubner. Samml. Eur. Schmett. I809-I3. pl. II0 f. 5I6.

The figure shows a mixture of grey and ochreous, rather dull in effect. Hindwings ground colour rather pale ochreous, with two dark bands outside the dark discoidal.

ab.viridis Tutt. Entom. I888. 2I. p. 48.

Like ab.par Hbn. this has the black markings very indistinct, but there is in addition a total absence of the grey colour which gives ab.par its mealy appearance. The whole of the forewings are of a very rich green colour.

ab.flavescens Tutt. Entom. I888. 2I. p. 48.

The typical form is greenish but in this form the colour is of a yellow shade.

ab.dispar Verity. Bull. Soc. Ent. It. I904. 36 p. 74.

Forewings with green scales and without yellowish or brownish tone; the black markings sparse or indicated by deeper green. Hindwings paler than in other forms.

This would seem to be similar to viridis Tutt but, without examination of the Type, impossible to tell.

ab.viridior Schawerda. Zts. Ost Ent. Ver. I932. I7. p. 30.

Also very near, if not the same, as viridis Tutt. The description says distinctive on account of its more intense beautiful green. Possibly more extreme than Tutt's form.

ab.pallida Tutt. Entom. I888. 2I. p. 48.

Marked like the type, but the ground colour of a pale whitish-grey.

ab.obscura Tutt. Entom. I888. 2I. p. 48.

Ground colour of the forewings of a dull brownish-grey, markings obscure as in ab.par Hbn., and a little darker than the ground.

ab.aurolichenea Culot. Noct. I90I-I3. I. p. I32. pl. 24 f. IO.

Forewings of a golden yellow, slightly ochraceous, with the ordinary markings distinct; some fine white spots thinly outlined in black. Hindwings blackish, darker towards the margin. Described from England.

ab.argillacea Culot. Noct. I909-I3. I. p. I33. pl. 24 f. II.

Forewings of a dull russet, the hindwings of a russet-brown, darker than the forewings.

Must be similar to the following ab.brunnea Porritt but the hindwings would appear to be different from any other form. Porritt did not describe the hindwings of brunnea but since he stated that it was the Devon form only, it is safe to go by our series in the Tring Museum which have greyish hindwings.

ab. brunnea Porritt. Ent. Mon. Mag. 1923. 59. p. 87.

Ground colour deep orange-brown, the markings typical, only found at Starcross, S. Devon.

ab. albida Colthrup. Proc. S. Lond. Ent. & Nat. Hist. Soc. 1929. (1927-28) p. 97.

Mr Colthrup exhibited a long and varied series among which were two very white specimens for which he proposed the name of albida.

Taken from a report of a meeting of the South London Society.

ab. griseo-flava Cockayne & Williams. Ent. Gaz. 1956. 7. p. 67.

The forewings have the mealy appearance of ab. par Hbn. but the ground colour approaches that of flavescens Tutt of a dingier shade of orange-yellow, due, no doubt, to the presence of the par factor. The markings of par, as shown in Hubner's figure, are present even in the palest examples. Types from Folkestone.

ab. glauca Cockayne & Williams. Ent. Gaz. 1956. 7. p. 69. pl. A f. 14.

Resembles the subsp. impar Warren, but the ground colour is a pale blue-green, the dark markings of impar are present but as in the lighter, not darker, examples.

A colour form of impar Warren, from Cambridge.

subsp. impar Warren. Ent. Mon. Mag. 1884. 21. p. 22-23. (Seitz 1909. 3. p. 21.)

Warren says in Ent. Mon. Mag. - "In consequence of the confusion which appears to be made between the mealy looking variety of glandifera (muralis) which occurs along with the typical form on the coast and which is sold by dealers as ab. par, and the Bryophila which we take at Cambridge, it will be as well to give the latter, which already has a local habitation, a distinctive name as well. Mr. Stainton, who has seen my series of the Cambridge insect, and considers it certainly distinct from Hubner's ab. par, said, in his joking way, "call it impar" and by this name I propose to distinguish it for the future. I should add that besides Cambridge, we must now include Cork as a locality. I have seen specimens, belonging to Mr. de V. Kane, which he informs me were caught in the neighbourhood."

Williams states that the name is a nom. nudum since there is no description but since Warren ties it to the Cambridge form, which is well-known, and compares it with the coastal form sold as ab. par Hbn. it would seem to be sufficiently clear. Warren describes it in Seitz as - green, dusted with black or rufous, the lines more or less obsolete; the green colour fades more quickly than in typical muralis the form occurs only at Cambridge where the type form is non-existent.

subsp. westropi Cockayne & Williams. Ent. Gaz. 1956. 7. p. 70. pl. A. f. I. 2. 3. 4. 5. etc.

The subspecies from Co. Cork. Deep green, with the usual black and white markings of muralis, but varying in colour as in the English series. The green forms, corresponding to the nominotypical muralis, are more intensely coloured. Smaller on average than English examples.

By our series in the Tring Museum the type form of westropi is the scarcest, the most usual Cork form is greyish, tinted with various shades of yellowish or very pale green.

ab. castanea Cockayne & Williams. Ent. Gaz. 1956. 7. p. 72. pl. A f. 6 & 19.

Forewings of a rich "milk chocolate" colour. From Co. Cork.

ab. similis Cockayne & Williams. Ent. Gaz. 1956. 7. p. 72. pl. A. f. 10, 11 & 12.

Similar in appearance to ab. impar Warren and stated by Warren to belong to this form on the strength of specimens shown to him by Kane. They are not impar but a form of the Irish subsp. westropi, they differ from the type form distinctively by the blurred delineations, the sharp black lines of muralis being replaced by ill-defined shadings; the black spots on the costa, however, being retained as in the type. In the lighter specimens the clear ground of the type is replaced by a faded yellow or greenish dusty grey, marked with dusky shadings, the black ante-marginal line is replaced by a pale one, having a dark external blotch where it touches the inner margin. The darker specimens have a dark olive-grey ground with darker suffused shadings, especially three blotches external to the pale antemarginal line.

ab. scoriatula Turati. Nat. Sic. 1919. 23. p. 266 fig. 267.

Although very dark, differs considerably from ab. obscura Tutt, figured by Culot. The arrangement of the black spots reminds one more of the impar Warren. The wings are covered with black scales on a smoky-grey ground, with an olive tinge. Its wider stripes, compared with impar, and its spots with greyish-black speckles almost entirely hide the ground colour, which appears lighter in the median area. Thorax and abdomen also dusted with grey.

ab. turatii Bytinski-Salz. Mem. Soc. Ent. It. (1936) 1937. 15. p. 198.

Pale olive-green, very reminiscent of ab. par Hbn. The dark pattern is almost completely lacking, being indicated only by a few dark scales; the reniform slightly lighter, beyond this a wide white submarginal band. Hindwings white, lightly dusted only on the margins with grey.

ab. ghilliani Perlini. Faun. Lep. It. 1906 p.

ab. liguris Milliere. Ann. Soc. Sci. Nat. Cannes 1878. 7. p. 8 pl. 3 f. 8.

Noct. I69.
p. I.

Moma Hbn.

alpium Osbeck. Gotheb. Vet. Sam. Handl. Vestensk. Afd. I778. I. 52. II
= orion Esper. Eur. Schmett. I787? 4. p. 283. pl. II8 f. 4.
= runica Haworth. Lep. Brit. I809. p. 200.

aberrational forms etc.

alpium Osbeck. typical form - - the third, or outermost transverse line of the forewings is more or less doubled, there being a parallel broken black line on its basal side; also on the outer side of the basal line there are a few spots.

ab. runica Stephens. Ill. Haust. I829. 3. p. 46. (fig. Donovan Brit. Ins. pl. 347 f. I)
Stephens is the only author to actually describe the form with less black spots on the forewings. Haworth, who is usually credited with the name, does not mention such a character, merely stressing the difference from aprilina in respect of the unique line of arrow-headed spots, which point outwards instead of inwards, just inside the fringe on the extreme margin. Haworth's runica is therefore treated as a synonym of the type form, he cites the aprilina of Fabricius and of Donovan so was merely giving the name to the present species to avoid the confusion with the similar green aprilina. Tutt's remarks on runica Haworth are not at all clear; in Brit. Noct. I. p. I2 he baldly states that in a long series of specimens he had only one representing the type, all the others had the single transverse lines thus representing runica; the variety being less strongly marked than the type had, of course, a much lighter appearance. He then refers to Newman's Brit. Moths p. 247 & 248 where the two forms of insect are figured and cites the top figure as runica Haworth. Newman himself on p. 248 gives Stephens as the author with the reference in Ill. Haust. 4 p. 46.
Stephen's description says "With the anterior wings a little less spotted with black."

ab. designata Turati. Atti. Soc. It. Sci. Nat. I9I9. 58. p. 45 pl. 8 f. 7.
The black spots and markings which usually form the median band, absent, except a simple hieroglyphic between the stigmata. The basal and submarginal bands remain well developed.
I have not seen the original description.

ab. glauca Turati. Ann. Mus. Un. Nap. I9II. 3. Sep. p. 25.
The black transverse lines of the forewings almost entirely absent. Hindwings almost uniform light grey with a single black line in the anal angle.
I have not seen the original description.

ab. fasciata Lenz. Osthelder Schmett. Sudbayern I927. p. 226.
With a joined-up black band in the middle of the forewings.

ab. rosea Tutt. Brit. Noct. I89I. I. p. I2.
The usually white longitudinal markings are of a delicate rosy tint.

Noct. I70.
p. I.

Apatele Hbn.

leporina Linn. Syst. Nat. I758. IO. p. 5 IO.
= bradyporina Hubner. (nec. Treits.) Samml. Eur. Schm. I8I8. f. 570-I.

aberrational forms etc.

leporina Linnaeus. typical form - - the wings white, with black branched spots.

ab. grisea Cochrane. (nom. nov. pro bradyporina Tr.) Ent. Rec. I906. I8. p. IOI-IO2.
= , bradyporina Trietschke. Schm. Eur. I825. 5. (I). p. 9. (nom. preoc. Hubner I8I8)
The forewings sprinkled with numerous dark brown atoms, usually much thicker at the base. The markings vary but always the dusting towards the wing margin, behind a more or less distinct toothed line, forms a dark band as far as the brown-sprinkled black and white fringes.
The above is the original description of Treitschke.
Cochrane renamed it grisea, because Hubner had already used the name for the white typical form leporina, and described it thus - - "a grey form, very much suffused, with scarcely any trace of the white colour which characterizes the type, the colour of the forewings of a dark uniform grey, the black markings of necessity less pronounced." This is the description given by Tutt for bradyporina

ab. melanocephala Mansbridge. Entom. I905. 38. p. 289. fig.
Differs from the ordinary grey form as follows - - Forewings in both sexes strikingly suffused with fuscous and with all the normal markings intensified. Thorax black, abdomen blackish, not so dark as the thorax. Hindwings white as in the type.
A melanic form occurring in the Liverpool district very much darker than the preceding grisea, despite Cochrane's remarks in Ent. Rec. I8 p. IOO-IO2, in which the suggestion is made that they are the same thing.

ab. melaleuca Culot. Noct. I909-I3. I. p. I9. pl. 2. f. 2.
The ground colour of the forewings entirely of a very deep grey, with the ordinary black markings unaltered; the fringes and a wavy line, interiorly contiguous to the black submarginal line, are the only white parts.

ab. rosea Tutt. Entom. I888. 2I. p. 52.
The forewings and abdominal incisions of a bright rose.
Tutt gives this description of a form called "La Rose" by Engramelle.

ab. nigra Tutt. Ent. Rec. I906. I8. p. I49. (see Entom. 39. p. 97 figure.)
Forewings black, thorax black, abdomen grey-black-ringed, the cilia white. Hindwings white as in type.
This is very similar to ab. melaleuca Culot but more extreme, the wavy line which is broadly white in melaleuca is only faintly shown in the figure by Willson, his description says "partly relieved by a faint white edging", he also says the hindwings are somewhat suffused towards the inner and outer margins, and the nervures are strong and dark. Tutt does not mention this in his description.

ab. semivirga Tutt. Entom. I888. 2I. p. 52. (fig. Newman's Brit. Moths. p. 25I f. 3.)
The same ground colour as the type (white), but the space between the undulated transverse line parallel to the hindmargin, and the hindmargin, is suffused with black scales, especially towards the line, giving the appearance of an exterior band.

ab. bimacula Maassen. Stett. Ent. Its. I87I. 32. p. 27.
Completely white, with two black spots in the middle of the forewings.

ab. leucogaea Stichel. Zts. Wiss. Ins. 1917. 13. p. 490. pl. 1 f. 7.

Closest to ab. bradyporina Freits., both zigzag lines of the forewings but particularly the outer one, very sharp and continuous. The basal and outer areas grey, the central area almost white so that it forms a broad whitish band. Stichel then says it is near the ab. semivirga Tutt which however has only the outer area darkened. This, from Tutt's description, is perfectly true, he only mentions the outer band but the figure in Newman which he cites shows a very similar form to Stichel's leucogaea with both basal and outer areas darkened.

ab. musella Rangnow. Ent. Rdsch. 1935. 52. p. 223. fig. p. 224. f. 29a.

Forewings silky mouse-grey, the only markings --- marginal bands weakly visible, central costal spots strong, black basal spot and the costal rudiments of the transverse bands.

ab. grisescens Rangnow. Ent. Rdsch. 1935. 52. p. 223 fig. p. 224 f. 29b.

Forewings grey-powdered on a white ground, the only markings being three rudimentary spots on the costa, the central one and the marginal spots (of all wings) strongly black, four spots remaining of the outer band and the black basal streak.

ab. minor Rangnow. Ent. Rdsch. 1935. 52. p. 223 fig. p. 224 f. 29c.

Only II mm. in expanse on forewing.

Rangnow describes his individual specimen in detail but the name would apply to all individuals of this size or less.

ab. fasciata Lempke. Tijdschr. Ent. 1939. 82. p. 209.

Forewings with a very broad blackish middle shadow.

ab. continua Lempke. Tijdschr. Ent. 1939. 82. p. 209.

The outer transverse line of the forewings complete or continuous, strongly dentate, from costa to inner margin.

ab. sagittata Lempke. Tijdschr. Ent. 1939. 82. p. 209.

A row of large black sagittate spots in the outer-marginal field of the forewings

ab. flavescens Lempke. Ent. Ber. (Amst.) 1935 9. p. 128.

The groundcolour light yellow, with or without black dusting.

Noct. 171.
p. I.

Apatele Hbn.

aceris Linn. Syst. Nat. 1758. Ed. X. p. 514.

aberrational forms etc.

ab. candelisequa Esper. Eur. Schmett. 1795. 4. p. 39. pl. 191 f. 1.
= infuscata Haworth. Lep. Brit. 1809. p. 177.

The forewings ash-grey, almost unicolorous, only towards the outer margin somewhat whitish. The figure gives a darker impression than the description, it is blackish-grey, somewhat darker than "ash-grey". Hubner's figure of aceris on pl. 3 f. 14 in Samml. Eur. Schmett. is obviously meant to represent this form and is a better attempt than Esper's. Haworth cites Hubner's figure for his infuscata and describes it as fuscous with a whitish outer area, so it is placed as a synonym. Lempke separates the two, making Esper's candelisequa blackish-grey and Haworth's infuscata dark brown-grey which would appear to be unnecessary.

aceris Linnaeus. typical form - - forewings whitish-grey.

ab. intermedia Tutt. Brit. Noct. 1891. I. p. 14.

Tutt says this is our common English form, it is darker than the majority of Continental forms and has a more yellow or ochreous tint, the lines and stigmata more distinct.

This would appear to be intermediate between the type form and the dark candelisequa Esper.

ab. elineata Dufrane. Rev. Mens. Soc. Ent. Nam. 1925. 25. p. 32.

The black streak placed below the submedian, fold which crosses the outer transverse line, is absent; the ordinary lines finer than in the type.

ab. assignata Hirschke. Verh. zool.-bot. Ges. Wien. 1910. 60. p. 413.

On the upperside of the forewing every trace of a marking is absent as is also the curved line on the hindwing. On the underside the curved lines on all wings are only weakly marked.

ab. anthracina Burrau. Opusc. Ent. Lond. 15. p. 82.

Noct. I72.
p. I.

Apatele Hbn.

megacephala Schiff. Wien. Verz. I775, p. 67.

aberrational forms etc.

ab. ochrea Tutt. Brit. Noct. I89I. I. p. I6.

The ground colour of the forewings decidedly suffused with ochreous.

ab. rosea Tutt. Brit. Noct. I89I. I. p. I6.

Forewings of a pale whitish rose, with all the markings very distinct.

ab. igdyrensis Teich. Korrespond.-blatt Nat. f. Ver. Riga I90I. 44. p. I7.

= albidior Wagner. Zts. Ost. Ent. Ver. I923. 8. p. 2I fig.

Of the pale colour of aceris with a trace of yellowish; the hindwings almost white with the marginal area almost clear.

Wagner described his albidior as tending strongly in appearance towards aceris.

His figure shows a normally marked specimen with almost white ground colour dusted with darker scales to give the same colour as aceris.

ab. pulla Strand. Arch. f. Math. og. Nat. I903. 25. no. 9. p. 9.

Very dark coloured. The thorax and head are black with a little mixture of grey, the forewings so suffused with black that the pale markings have either wholly disappeared or are only indistinct

ab. nigra Shaw. Ent. Rec. I902. I4. p. I03.

= aethiopa Krulikowsky. Soc. Ent. I906. 2I. p. 50..

Forewings totally black with a slight white fringe; the orbicular stigma slightly paler than the ground. Body black; hindwings normal.

aethiopa had coal-black forewings with slight traces of the normal markings, thorax black.

aberrational forms etc.

ab. suffusa Tutt. Ent. Rec. I890. I. p. I90. (Brit. Noct. I89I. I. p. I7.)

The pale parts of the forewings very much suffused with black scales. In his Brit. Noct. Tutt gives a fuller description - - "With the two pale patches which are generally pale ashy in colour, much suffused with dark blackish-grey, and closely resembling the darker parts of the wing, thus appearing darker and more unicolorous."

This and the following ab. steinerti are hardly separable, but from Tutt's first description, it would seem that suffusa is not quite so dark, and since Tutt does not say that the thorax is dark, as it is in steinerti, suffusa is kept separate.

ab. steinerti Caspari. Soc. Ent. I898. I3. p. 3.

= carola Philipps. Soc. Ent. I898. I3. p. 50.

Forewings smoke-brown, never, as in normal alni, with white showing through, the black parts stand out less than in normal alni, on the smoke-brown ground; the stigmata are almost unrecognisable, the fringes instead of black and white chequered, are black and brown. The thorax is almost earth-brown instead of the normal snow-white.

Philipps described his carola, which he received from Herr Caspari, as having strikingly black forewings, the black arrow-streaks which in normal alni stand out sharply, almost completely disappear on account of the black suffusion or scaling; the stigmata indistinct; the thorax is equally strongly blackened. Since Philipps received his specimens from Caspari they are almost certainly the same form, the only difference in their descriptions is in Caspari calling the colour smoke-brown and Philipps black. Our specimens in the R.-C.-K. collection show both (dark brown to black.) See ab. obscurior Caspari, below.

ab. eothina Dannehl. Ent. Z. I925. 39. p. 6.

The colour appears as a dark rose which covers the moderately darkened marking elements or areas; the black markings appear to stand out; the orbicular is absent.

ab. obscurior Caspari. Jahrb. Nassau Ver. Nat. I899. 52. p. I78-79. pl. 4 f. 9.

A noticeably darker form of ab. steinerti Caspari, showing a strong difference in the hindwings which are darkened to grey-brown. Caspari says the coloured figures are so good that further description is unnecessary but in the fig. 9 the hindwings do not agree with the description, they are white with a greyish-brown median line. The forewings are very dark, the normally pale areas being browned over much as in the description of his steinerti so altogether the form is hardly worth separating from steinerti. Caspari calls it "ab. steinerti ab. obscurior". It may be separated, if necessary, on the description of the hindwings, "grey-brown"

ab. melaina Schütze. Zts. Wien Ent. Ges. I955. 40. p. I29 pl. I2 figs. 6-7, I3 & I4.

Forewings velvety black, lightly brownish toned, with a purple shimmer; markings only visible as shadows. Hindwings unicolorous black-brown, stronger on the margins lighter towards the base. The fringes of all wings black, thorax and abdomen unicolorous black.

This is a much more extreme form than the preceding melanics, the chief character being the black fringes which in ab. steinerti, obscurior etc. are black and brown chequered. The hindwings also in the figures are exceedingly dark.

ab. obsoleta Tutt. Brit. Noct. I89I. I. p. I7.

With the orbicular stigma entirely obliterated.

Noct, I74.
p. I.

Apatele Hbn.

strigosa Schiff. Wien Verz. I775. p. 88.
= favillacea Esper. Eur. Schmett. I786. 4. n. 382. pl. I27 f. 4.

aberrational forms etc.

ab. bryophiloides Hormuzaki. Ent. Nachr. I89I. I7. p. I45.

= casparii Steinert. Iris. I897. IO. p. 398. (fig. Jahrb. Nassau Ver. Nat. 52. pl. 4 f. 3.)
Head, thorax and abdomen dark brownish-grey of the same colour which is seen only on the inner margin of typical strigosa around the black arrow-marks. This dark colour spreads itself uniformly over the forewings without paler, whitish, mixture. Smaller than typical examples, the forewings strikingly narrower.

In general appearance the form is very reminiscent of certain Bryophila species, such as raptricula or receptricula due to its smaller size, slender body shape, elongated wings, uniform dark colouring and exceedingly simple marking which consists merely of the fine hinder transverse line, the two outer arrow spots and the basal one which is broken into black spots.

Steinert's casparii was dark slate-grey, of the colour normally found on the inner margin of typical strigosa. The dark colour spreads itself unicolorously over the whole wings.

Apart from the size and shape of bryophiloides, casparii would appear to be very little different.

ab. nigrescens Turner. Ent. Rec. I927. 39. Suppl. p. (6I).

Nearly black except the reniform stigma which is yellow. Cockayne described the reniform as whitish.

Turner credits Barrett with the name and gives the reference Barrett Lep. Brit. Is. 3. p. 24. I896., which Draudt in Seitz has copied. The page in Barrett is wrong, it is 243, and Barrett did not name it, the reference is therefore Ent. Rec. etc., as above. The form is little different from the two preceding, we have the type in the Tring Museum and actually is it not black except along the inner margin, the reniform however is strikingly conspicuous, whitish is a much nearer description of its colour than yellow.

ab. destrigata de Lattin. Zts. Wien. Ent. Ver. I940. 25. p. I7.

Distinguished by the complete absence of the black longitudinal streak above the inner margin in the middle field; moreover the area below the black dagger mark in the basal field is strongly blackened.

Noct. I75.
p. I.

Apatele Hbn.

tridens Schiff. Wien Verz. I775. p. 67.

aberrational forms etc.

ab. virga Tutt. Entom. I888. 2I. p. 50. (see Newman Brit. Moths p. 248 fig. 2.)
Forewings with the area between the outer margin and the outer transverse line much suffused with dark scales, giving it the appearance of a band; the space between the black basal streak and the inner margin much suffused.

ab. bidens Tutt. Brit. Noct. I89I. I. p. 20.
Forewings with the basal streak not having the central longitudinal line produced beyond the bifurcation which is part of the transverse line.

ab. quinquedentata Tutt. Brit. Noct. I89I. I. p. 20.
With the basal mark produced through the ordinary bifurcation as in the type, but with two bifurcations, thus making five points.

ab. juncta Tutt. Brit. Noct. I89I. I. p. 20.
With the orbicular and reniform united on their inner margins.
Since about 95% of tridens are of this form the name is quite unnecessary and probably a synonym of the type, Tutt should have named those that do not unite.

ab. rosea Tutt. Brit. Noct. I89I. I. p. 20.
Like the type but with the whole of the wings suffused with a beautiful rosy tinge.

ab. assignata Spuler. Schmett. Eur. I9I0. I. p. I37.
The black longitudinal arrow in the marginal area absent.

ab. variegata Strand. Arch. Naturg. (I9I5) I9I6. 8I. AII. p. I57.
Forewing more variegated with white; hindwing of the male white with the veins slightly tinged with brown towards the termen.
Strand named this form described, but thought unworthy of a name, by Hampson in Lep. Phal. 8. p. I08.

ab. soltowensis Schultz. Int. Ent. Z. I930. 24 p. I85.
Forewings dark brown-grey dusted; the dagger mark, basal streak, etc., are sharp and stand out distinctly. Hindwings also somewhat darkened.

Noct. I76.
p. I.

Apatele Hbn.

psi Linn. Syst. Nat. I758. Ed. IO. p. 514.

aberrational forms etc.

ab. cuspis Stephens (nec. Hbn.) Ill. Haust. I829. 3. p. 39.

This form was merely a misidentification of the Continental species cuspis and best not used, since it cannot be established whether it is psi or tridens.

ab. virga Tutt. Brit. Noct. I89I. I. p. 2I.

Forewings with the area between the outer transverse line and the margin, of a darker shade than the ground, giving the appearance of a band.

ab. bivirgae Tutt. Entom. I888. 2I. p. 50.

Forewings with the space between the outer margin and the transverse line completely suffused with black scales, the basal part also completely suffused, so that the wings show two bands.

ab. suffusa Tutt. Entom. I888. 2I. p. 50.

The whole of the ground colour is much suffused with dark scales with resulting dark appearance. Hindwings also much darker than in the type.

ab. bidens Chapman. Brit. Noct. I89I. I. p. 22.

Pale and unicolorous and remarkable from the basal dagger showing only two wings (points), the usual extension being cut off as in ab. bidens of tridens. The outer transverse line does not curve round on the costa towards the base, as is usual, but passes straight to the costa with no curve; the costal shade or blotch which passes between the stigmata starts from the transverse basal line, normally it is some distance from it, the basal transverse line is very distinctly doubled.

ab. rosea Tutt. Brit. Noct. I89I. I. p. 22.

The whole of the forewings suffused with rose colour.

ab. juncta Tutt. Brit. Noct. I89I. I. p. 2I.

The orbicular and reniform joined on their inner margins.

A very common form. The stigmata in this species are always extremely close and often touch.

ab. psideleta Turner. Ent. Rec. I935. 47. Suppl. p. (362).

With the complete absence of the "psi" mark.

Noct. I77.
p. I.

Apatele Hbn.

menyanthidis Vieweg. Tab. Verz. Churmark Brandenburg Berl. I/89.
p. 50 pl. 2 f. I-2.

aberrational forms etc.

menyanthidis Viewig. typical form - - forewings whitish-grey with distinct blackish markings.

subsp. scotica Tutt. Entom. I888. 2I. p. 86.

According to Tutt the Scottish specimens are larger and brighter than the type, the markings very clear and distinct. This applies to those from the west coast, those from the east coast being more like English.

Tutt makes the Scottish different from Yorkshire ones so names them scotica but I can see very little difference. The race is a doubtful one.

ab. obsoleta Tutt. Entom. I888. 2I. p. 85.

= uniformis de Lattin. Zts. Wien Ent. Ges. I949. 34. p. II2.

Forewings somewhat paler than type, the markings very faint and indistinct. uniformis had only traces of the transverse lines and stigmata.

ab. arduenna Gillmer. Ent. Z. I905. I8. p. I29. (fig. Ann. Soc. Ent. Belg. 48. pl. I. f. I093)

Ground colour not white-grey but yellowish-grey; the middle field strongly darkened black-brown and standing out in contrast to the basal and outer areas, therefore exactly the opposite to ab. sartorii in which the middle field is pale and the basal and outer areas dark; only the inner bordering of the outer transverse line is distinctly white with a tinge of yellowish; the marginal and basal fields are yellowish-grey. Hindwings almost unicolorous yellowish-grey, only somewhat paler in the middle.

Of the figure in Ann. Soc. Ent. Belg. Gillmer says the black-brown area is too extended beyond the outer transverse line, the main characters of the this figure are the pale basal and marginal areas in contrast with the very dark middle area which is outwardly bordered by a distinct white transverse line.

ab. virga Gillmer. Ent. Z. I905. I8. p. I28.

Specimens which only show a darkening of the marginal field, the basal field remaining normal.

ab. sartorii Hockemeyer. Ent. Z. I904. I8. p. 29 fig. 3 & 4.

Ground colour whitish-grey, the entire marginal field from the white outer transverse line to the margin is shining black, the basal field also darkened but not so strongly as the marginal field.

ab. suffusa Tutt. Entom. I888. 2I. p. 85-86. (fig. Newman Brit. Moths p. 257.)

Forewings powdered with black scales, giving the insect a much darker appearance than the type form.

ab. nigra Schaefer. Int. Ent. Z. I925. I8. p. 276.

Not only the marginal and basal areas, as in ab. sartorii, are darkened blackish, but the darkening extends over the whole wing, thorax and antennae. Due to a weak remnant of a pale band, the marginal field is separated from the basal field. The hindwings are blackish-grey.

ab. jaeschkei Kujau. Int. Ent. Z. I9I7. IO. p. I4I.

The hindwings with a 3 mm. wide sharply defined black marginal band on a typically white ground. Forewings paler blue-grey than normal, all the black markings sharply defined.

Noct. I77.
p.2.

menyanthidis Vieweg. continued.

Noct, 178.
P. 1.

Apatele Hbn.

auricoma Schiff. Wien Verz. 1775. p. 67.

aberrational forms etc.

auricoma Schiff. (Fabricius.) typical form. - - forewings grey-brown.

ab. similis Haworth. Lep. Brit. 1809. p. 180.

Forewings largely grey without brown tint; the dagger mark before the termen more or less obliterated.

pepli Hbn. treated as an aberration by Tutt and Warren, is an Alpine race and is not included here. The aberration, similar in appearance, is named obscura by Lempke.

ab. obscura Lempke. Tijdschr. Ent. 1939. 82. p. 206.

Forewings very dark blackish grey-brown, the markings as a rule less distinct. Mostly recorded as pepli Hubner but this is an Alpine race.

ab. virga Lempke. Tijdschr. Ent. 1939. 82. p. 206.

The marginal area of the forewings darker than the rest of the wing.

ab. basistriata Kujau in Warnecke. Verh. Ver. Naturw. Heimatforsch. Hamb. 1931. 22. p. 134.

Forewings with a deep black, long and wide, basal streak, that extends right to the subanal streak.

Description from Seitz, I have not seen the original.

Noct. I79.
p. I.

Apatele Hbn.

euphorbiae Schiff. Wien Verz. I775. p. 67.

subsp. myricae Guen. Hist. Nat. Ins. I852-57. Noct. I. p. 59 pl. 3 f. 10.

aberrational forms etc.

euphorbiae Schiff. - the typical form does not occur in Britain.

subsp. myricae Guen. from Scotland and Ireland.
Much darker than the type form.

ab. fasciata Hannemann. Int. Ent. Z. I916. 10. p. 63.

With broad dark middle band.

Described under abscondita Trietschke which some authors regard as a separate species.

ab. parisiensis Oberthur in Culot. Noct. I909-13. I. p. 2, pl. 2 f. 9.

There is no description because the figure is so exact. This shows the forewings smoky-grey, smooth and uniform, and crossed by three transverse lines which are much lighter, contrasting strongly with the dark ground.

Noct. I80.
p. I.

Apatele Hbn.

rumicis Linn. Syst. Nat. Ed. 10. p. 516.

aberrational forms etc.

rumicis Linnaeus. typical form - - the ground colour grey (cinereis).

euphrasiae Stephens. Ill. Haust. I829. 3. p. 42.

This is treated as an aberration of rumicis by many authors but since it was merely a misidentification of the Continental species it is not accepted here.

euphorbiae Stephens. Ill. Haust. I829. 3. p. 42.

Treated also as an ab. of rumicis but is a misidentification of the Continental species and not accepted.

ab. salicis Curtis. Brit. Ent. I826. 3. pl. I36.

= nobilis Gregson. Entom. I868. 4. p. 50.

Melanic form, the forewings much suffused with black scales giving a very dark appearance; the white lunular spot above the inner margin towards the outer edge of the wing is present, also a row of white dots parallel with the outer margin. Barrett gives a very good figure of this form in vol. 3 pl. I23 f. Ib.

ab. lugubris Schultz. Soc. Ent. I902. I6. p. I70.

= nigerrima de Lattin. Zts. Wien Ent. Ver. I940. 25. p. I8.

The forewings not grey but deep black, coal-black. The markings stand out only weakly or are completely effaced; the white spot over the inner margin has remained and stands out much more distinctly on the dark ground than in the typical form. The pale spots of the outer margin are only partially present or are completely absent; hindwings black-grey, the body also, thorax deep black as the ground colour of the forewings. .nigerrima - lamp-black except for the white spot (inner margin)

(see also below, page 22)

ab. polonica Pruffer. Bull. Int. Acad. Pol. I9I8-I9. p. 20I; fig.

= prufferi Maslowscy. Polsk. Pism. Ent. I923. 2. p. I30.

Forewings dark brown, black dusted. All the white spots, including the one above the inner margin are absent.

Description by Lempke, I have not seen the original.

ab. subrianna Gillmer. Ent. Req. I907. I9. p. 9I-92. (fig. Soc. Ent. 24. p. 59.)

~~= marginata Lmbillon. Rev. Mens. Soc. Ent. Man. I909. (.p. 22.)~~

The basal and marginal areas of the forewings black, the middle area scarcely darker brownish-grey than in the typical form; the outer light transverse line obsolete or suppressed, only the white spot above the inner margin remains.

~~I have not seen the original description of marginata but Cockayne places it as a synonym of subrianna. Turner, on the other hand, says the band is on the hindwings not the forewings, and that it runs from the anal angle to the inner margin, which does not make sense. Turner is correct.~~

ab. alnoides Geest. Ill. Zts. Ent. I903. 8. p. 3I0 fig. & p. 3I2.

Resembles A. alni. Forewings pale grey on the costa and broadly black on the inner margin, only interrupted by the pale grey outer line, the outer "arrow mark", seen in psi and tridens, is particularly distinct.

ab. distincta Zubowski & Ruscinski. Bull. Mus. Reg. Bessarabie.

8. p. 26.

ab. *bercei* Sand. Faune Française. 1870. 3. p. 19. ? (vol. 4. p. 10.)

I have not seen the original description of this form. Draudt in Seitz says it completely black devoid of all markings except minute traces of the white inner-marginal spots. If this is correct it would have priority over *lugubris* Schultz (see previous page). Sand gives a different reference from Draudt in a later work, *Lep. du Berry & de l'Auvergne*, but does not give a description there, for the time being therefore *lugubris* is left as the name for the extreme black form.

ab. *marginata* Lambillion. Rev. Mens. Soc. Ent. Nam. 1909. 9. p. 22.

Hindwings with a black marginal border, absolutely well-defined and of equal width.

ab. *striata* Meves. Ent. Tidskr. 1914. 35. p. 15.

On the upperside of the forewings the white spots of the subterminal line are elongated inwardly as far as the postmedian ("hinder-most") transverse line, so that the subterminal line appears to be white-striped. Also, the forewings are narrower and more elongated than usual. (From the German translation on p. 41.)

ab. *striata* Richardson. (nom. praec. Meves 1914). Entom. 1958. 91. p. 211; pl. 4, f. 5.

In the median area of each forewing, immediately below the *stigmata*, there is a short horizontal black dash, approximately $\frac{1}{4}$ in. long. Below this are two shorter dashes, each approximately $\frac{1}{10}$ in. Below these and just inside the white lunar dot near the inner margin is a more pronounced black dash of approximately $\frac{1}{8}$ in. There is also another black dash reaching from the top of the outer *stigma* to the bottom of a dark costal subapical blotch.

Noct. I8I.
p. I.

Craniophora Snell.

ligustri Schiff. Wien Verz. I775. p. 70. (Fab. Mantissa 2. p. I72)

aberrational forms etc.

ab. coronula Haworth. Lep. Brit. I809. p. I79.

= sundevalli Lampa. Ent. Tidskr. I885. 6. p. 50.

The annulated whitish spot, and the "coronet" whitish marking of the type form, are fuscous.

Lampa's sundevalli had the forewings without the white spots.

ab. olivacea Tutt. Entom. I888. 2I. p. 8I.

Like ab. coronula Haw. with no white markings, these being suffused. The suffusion however in this form is of a dark olive-green colour.

Probably the same as Haworth's coronula, the green tint is only seen in certain lights.

ab. obscura Mellaerts. Lambillionea I928. 28. p. II7.

The forewings, prothorax and abdomen black with typical markings greenish.

ab. nigra Tutt. Ent. Rec. I890. I. p. 34.

Entirely black, the paler markings of the type being entirely absent, the transverse lines being more intensely black than the ground.

ab. troni Huene. Berl. Ent. Zts. I90I. 46. p. 3I0.

The ground colour white, not even brown, with the normal black markings. The areas coloured the deepest and darkest brown in the typical form, are in this specimen only light grey-brown. These areas are - the one between the stigmata and a little downwards from there, one at the inner angle, and one below the apex of the wing which sends out a tooth-mark towards the reniform. Hindwings uniform grey-brown.

ab. viburni Dannehl. Ent. Z. I925. 39. p. I20.

Unicolorous mouse-grey, a number of small very indistinct olive-green and rose-red patches; and only a narrow dark transverse band stands out. The large white patch in the outer area is only a little paler than the ground. The thorax and abdomen are also mouse-grey, the usual strongly toned black and white streaks and marks are absent.

ab. roseoradiata Dannehl. Ent. Z. I925. 39. p. I20.

Ground colour brown-rose or violet, with three rose coloured streaks along the veins, running from base to outer margin

albo-venosa Goeze. Ent. Beitr. 1781. 3. (3). p. 251.
= venosa Borkh. Eur. Schmiett. 1792. 4. p. 716.
= degener Hbn. Samml. Eur. Schmiett. 1803-08. pl. 81. f. 380.

aberrational forms etc.

albovenosa Goeze. typical form -- greyish with the veins grey-whitish.
Borkhausen(venosa) gives a fuller description but refers to albovenosa Goeze in his synonymy. Both authors cite De Geer. Hist. Ins. 2. part I. p. 415 & 596 pl. 7 f. 14. No ground colour other than grey is mentioned either by De Geer or Goeze. Lampa in Ent. Tidskr. 6. p. 48 makes flavida Auriv. a synonym but flavida is yellowish or straw coloured, so is separated here as an aberration. Lempke makes it a synonym of the type.

ab. centripuncta Herrich-Schaffer. Neu Schmiett. 1856. p. 4. fig. 24 & 25.
No description. The figure shows a small black spot or point in the median cell of the forewings, at the bottom corner, more or less in the centre of the wing.

ab. geminipuncta Boldt. Tijdschr. Ent. 1939. 82. p. 199.
Two black points, in the upper and lower corners, of the median cell.
The preceding form has only the lower one.

ab. albida Aurivillius. Ent. Tidskr. 1880. I. p. 38.
= argentea Tutt. Entom. 1888. 21. p. 100.
Forewings whitish with costa and veins white, the black stripe most often distinct. Hindwings snowy, abdomen white.
Tutt's argentea was silvery white with no trace of ochreous, the median nervure much suffused with dark scales.

ab. murina Aurivillius. Ent. Tidskr. 1880. I. p. 37. pl. I. fig. 2.
Forewings obscurely mouse-grey, the basal hairs and veins white. Hindwings white with broad infuscated margin. Abdomen fuscous grey.

ab. flavida Aurivillius. Ent. Tidskr. 1880. I. p. 38.
= ochracea Tutt. Entom. 1888. 21. p. 99.
Forewings yellowish or straw coloured, the anterior margin white sprinkled; a short black stripe from base to behind discoidal cell, the veins paler. Hindwings and abdomen yellowish-white.
Tutt's ochracea was reddish-ochreous, the wing rays pale ochreous instead of white.

ab. tristis Bang-Haas. Iris 1907. 20. p. 70.
A form of centripuncta H.-S. but darker coloured. Forewings grey-brownish, the colour of S. nervosa F. but more unicolorous. It differs from ab. murina Auriv. by the veins not being white.

ab. selenia Schultz. Int. Ent. Z. 1930. 24. p. 168.
On the underside of both fore and hindwings a strongly emphasized middle moon or discoidal spot. In normal specimens these are hardly visible.

ab. *neomelaina* Traub. (as *nocmelaina*) Int. Ent. Z. 1928.22. p. 189. fig.

(amended, loc. cit. p. 203, by the author.)

= *nocmelaina* Traub. (in error) Int. Ent. Z. 1928.22. p. 189. (amended, p. 203, to *neomelaina*)

Head, thorax and abdomen black-brown, forewings almost black, the veins pale grey,
base of wings grey. Hindwings grey-brown, blackened towards the margin.

Noct. 183.
p. I.

Amphipyra Ochs.

pyramidea Linn. Syst. Nat. 1758. Ed. 10. p. 518.

aberrational forms etc.

ab. virgata Tutt. Brit. Noct. 1892. 4. p. 38.

Forewings with the central area, between the basal and angulated lines, filled in darker colour, thus making a dark band, bounded by the paler transverse lines; the outer area on each side of the subterminal line strongly shaded with black.

? ab. obscura Oberthur. Etudes d'Ent. 1880. 5 (1). p. 85.

= obliquilimbata Graeser. Berl. Ent. Z. 1888. 32. p. 352.

Regarded as an aberration of pyramidea by many authors and of monolitha Guen. by others. By the specimens in the Rothschild collection from Amurland and Japan, it is neither, but a separate species which looks duller and of a rather different shape. It would be safer not to use the name under pyramidea, obscura Ob. came from Askold Island and obliquilimbata Guen. from Amurland.

ab. fusca Rocci. Atti Soc. Ligust. 1914. 25. p. 155.

Forewings strongly darkened, soot colour, with indistinct markings.
Description from Lempke, original not seen.

ab. albisquama Warren. Seitz 1911. 3. p. 158. pl. 38 row a.

= melaleuca Lenz. Osthelder Schmett. Sudbayern. 1927. p. 311. pl. 16 f. I.

Forewings with the pale ring of the orbicular, the submarginal line and the marginal spots brightly white and the outer line more broadly filled up with distinct cream-white. The ground colour is uniformly dark brownish-fuscous, obscuring all the horizontal pale markings and veins, so that only the transverse lines are visible.

Lenz melaleuca had the forewings grey-black, with the exception of the narrow transverse lines, of which the one before the marginal field stands out especially lightened.

The figures of the two forms are very similar.

ab. pallida Lambillon. Rev. Mens. Soc. Ent. Nam. 1908. 8. p. 48.

Ground colour of the forewings ^{pale}ash-grey with the ordinary lines well marked in greyish-white; the median band no darker than the ground colour. The orbicular large for the most part bordered with greyish-white; longitudinal streak black, just narrowly covering the reniform stigma. Hindwings normal.

Derenne in Rev. Mens. Nam. 19. p. 42 says this is the same form as variegata Warren but the Type in the Tring Museum is not by any means ash-grey, only slightly paler at the base and in the submarginal area and there is a definite darker median band, the main character of Warrens type is the prominent pale-ringed orbicular and pale transverse lines.

ab. variegata Warren. Seitz. 1911. 3. p. 158.

The basal half of the forewing and the terminal area sprinkled with pale scales and the annulus of the orbicular is broadly white.

Derenne says this is the same as pallida Lamb. but the Type in the Rothschild collection at Tring is not ash-grey, see remarks under preceding form.

ab. reducta Lempke. Tijdschr. Ent. 1946 (1949). 90. p. 88.

The orbicular fails, as a rule because it is covered by the black streak in which the reniform is also placed.

ab.striata Lempke. Tijdschr.Ent.1946.(1949).90.p.88.

A number of sagitate marks runs from the submarginal line to the outer line.

ab.lineata Lempke. Tijdschr.Ent.1946 (1949).90.p.88

A sharp blackish line runs from the base to the second line in the place of the claviform.

ab.lutescens Cockayne. Ent.Rec.1946.58.p.74.

The forewings and thorax are paler than usual, and the copper colour of the hindwings is replaced by shining creamy yellow.

ab.insignis Cockayne. Ent.Rec.1946.58.p.74 pl.10 (I).fig.9.

The ground colour of the forewing is bone-coloured and the only markings are the black postmedian line, bordered internally by blackish-brown to form a dark transverse band, the black stripe joining the postmedian to the inner half of the reniform, the blackish-brown ring and central dot of the orbicular, the line joining it to the antemedian, and the antemedian line itself.

ab.melanostigma Cockayne. Ent.Rec.1946.58.p.75. (fig. S.Lond.Ent. Soc.1937-38.pl.2.)

Thorax paler than usual, the ground colour of the forewing as far out as the sagitate marks, which lie just internal to the subterminal line, is very pale ochreous brown; the light transverse lines are lost in the ground colour. The antemedian is represented by three blackish-brown dots, the postmedian by a row of blackish dots, and the orbicular by a black dot. The discoidal spot and the dark streak running from it to the postmedian are blackish-brown and very conspicuous.

ab.latilinea Cockayne. Ent.Rec.1951.63.p.158. (fig. S.Lond.Ent. Soc.1937-38 pl.2.f.4)

On the forewing the postmedian line is displaced outwards towards the termen, and more curved than usual in its anterior third; it is bordered externally by a broad pale line in its anterior third and by a narrow one in its posterior two thirds; the pale submarginal line is wider than usual.

Noct. I84.
p. I.

Amphipyra Ochs.

tragopoginis Clerck. Icones I759.pl.I f.5.
= tragopoginis Linn. Faun. Suec. I76I.p.3I6.
= luciola Hufn. Berl. Mag. I766.3.p.294.

aberrational forms etc.

ab. grisea Vorbrodt. Mitt. Schweiz Ent. Ges. I92I. I3.p. I90.
The ground colour pure grey.

ab. demaculata Nordstrom. Svenska Fjarilar I939.p. I67.
The three black spots on the forewing absent.

ab. nigrescens Spuler. Schmett. Eur. I906. I.p. 237.
A unicolorous darker form which is reddish black-grey on the forewings which Haworth perhaps saw as his tetra Fabr.

? ab. tetra Haworth. Lep. Brit. I809.p. I64.
Obviously a misidentification of the Continental species tetra which does not occur in Britain so the name should not be used. Spuler has named a similar dark form ab. nigrescens, see preceding.

ab. brayi Lambillion. Rev. Mens. Soc. Ent. Nam. I907. 7.p. 29.
The forewings deep black, the three spots lost in the ground colour. *How also dark.*
Lempke makes this a synonym of nigrescens but it would appear to be very much darker.

ab. variegata Lempke. Tijdschr. Ent. I946(I949). 90.p. 87.
Forewings with the marginal area pale and sharply contrasting.

ab. conjuncta Lempke. Tijdschr. Ent. I946(I949). 90.p. 87.
On the forewing the two black points in the place of the reniform run together into a black line.

Noct. I85.
p. I.

Rusina Stephens.

umbratica Goeze. Ent. Beitr. I78I. 3. (3). p. 67.
= tristis de Villiers. Linn. Ent. I789. 2. p. 26I.
= tenebrosa Hubner. Samml. Eur. Schmett. I800-03. pl. 33. f. I78.

aberrational forms etc.

ab. obscura Tutt. Brit. Noct. I892. 2. p. 2.

Ground colour of the forewings deep unicolorous blackish-brown, without distinct markings except the reniform which is outlined in paler.

ab. phaeus Haworth. Lep. Brit. I803. p. I33.

= ♀ obsoletissima Haworth. Lep. Brit. I809. p. 207..

Thorax and wings grey, with four denticulate stripes.

The ♀ obsoletissima was described as fuscous, tinged with grey.

Most authors include this form under umbratica but I have never seen a "grey" example.

ab. bellieri Culot. Noct. I9I3-I7. 2. p. 59 pl. 49 f. 2.

Very pale. The coloured figure shows the wings very pale brown with a slight yellowish tint, the forewings markings are normal but rather weak.

ab. albescens Cockayne. Ent. Rec. I946. 58. p. 74 pl. X(I). fig. 5.

Thorax, antennae, legs and abdomen as well as the forewings are bone coloured, the colour of the palest form of Rhizedra lutosa Hbn., and there are no markings whatever. Hindwings whitish with a faint brown tinge.

ab. davisii Chalmers-Hunt. Entom. I96I. 94. p. 282. pl. 7 f. 3.

Forewing with a submarginal series of pale dashes or wedge-shaped blotches; the example otherwise normal.

Turner in Brit. Noct. (Suppl. Ent. Rec. I935. p. (4)) gives seven names given by Strand to forms of Magusa tenebrosa Moore evidently under the impression they belonged to tenebrosa Hbn., and makes the remark that he has been unable to trace them or seen any forms which approach them. This is not to be wondered at, since the genus Magusa comprises extremely different looking insects.

ab. ferruginea Esper. Eur. Schmett. I785. 3. p. 246. pl. 47 f. 5 & 6.
Wings reddish-brown.

Noct. I86.
p. I.

Mormo Ochs,

maura Linn. Syst. Nat. I758. Ed. IO. p. 512.
= lemur Meinekens. Naturf. I775. 6. p. II2 pl. 5 f. I.

aberrational forms etc.

ab. ojcoviensis Biezanko. Arch. Naturg. I924. 90. A5. p. 24I pl. 2 f. 4.

The apical spot of the forewing only weakly visible, the wings dark without velvety gloss, the pale wavy transverse lines of the forewing almost invisible. In the median area there are two fields, one darker and containing the reniform, the other paler containing the orbicular. The base of the hindwing darker than typical.

ab. virgata Tutt. Brit. Noct. I892. 4. p. 40.

The central area banded. This area forming a more or less complete dark band especially in its lower part. Described by Guenee as the type form.

ab. rosea Tutt. Brit. Noct. I892. 4. p. 40.

= rosea Spuler. Schmett. Eur. I906. I. p. 2I2.

A rosy or violet tint on all the pale parts. The var. A of Guenee.

ab. striata Tutt. Brit. Noct. I892. 4. p. 40.

With pale (whitish) transverse and longitudinal lines. Forewing with distinct whitish central nervure, bifurcated under the reniform, a pale inner margin and angulated line, pale nervures between this line and the subterminal which is also pale; the nervures also pale on the outer margin. Figured in Newman's Brit. Moths p. 460.

ab. obscura d'Auriol. Bull. Soc. Lep. Gen. I9I6. 3. p. I55.

Black, instead of having the normal brown tint.

ab. obscura Spuler. non existant. Turner in Brit. Noct. (Ent. Rec. I949 Suppl. p. (6I)) says that Spuler named an ab. obscura in Eur. Schmett. I906. I. p. 2I2 footnote. This is not so, Spuler merely states in this footnote that Tutt's rosea was non-existent because Tutt had not seen one, the name should therefore be ab. rosea Spuler. This is nonsense, Tutt was quite in order in naming Guenee's var. A, since Guenee gave the description "A tint of rose or violet on the pale parts."

ab. juncta Lempke. Tijdschr. Ent. (I946) I949. 90. p. 84. (description vol. 82 p. I97)

The orbicular and reniform joined together but remaining distinct.

ab. bicolor Cockayne. Ent. Rec. I95I. 63. p. I58 pl. 5 f. 5.

On the forewing the areas between the base and the antemedian line, outside the postmedian line, and outside the subterminal line, are very pale in colour; the dark shading internal to the subterminal line is present near the costa, but gradually becomes narrower and much fainter towards the inner margin. The border of the hindwing is very pale and there is a pale line across the middle of the wing. thorax and abdomen much paler than usual.

Noct. I87.

P. I.

Dypterygia Stephens.

- scabriuscula Linn. Syst. Nat. I758. Ed. IO. p. 516.
- = pinastri Linn. Faun. Suec. I761. p. 315.
- = dipterygia Hufn. Berl. Mag. I766. 3. p. 300.
- = tripterygia Esper. Eur. Schmett. I786. 4. (I). p. I77. pl. IO7 f. 4.

ab. suffusa Cresson. Proc. Chester Soc. Nat. F. L. & A. I951. 4. p. 78.

The main feature is its smoky appearance, the whole of the wings, thorax and abdomen being heavily clouded with black.

ab. juncta Lempke. Tijdschr. Ent. (I946) I949. 90. p. 84. (description vol. 82. p. I97)

The reniform and orbicular joined together but remaining distinct.

ab. confluens Lempke. Tijdschr. Ent. (I946) I949. 90. p. 84. (description vol. 82. p. I97)

The orbicular and reniform joined forming one single spot, their boundary absent at the point of juncture.

Noct. I88.
p. I.

Apamea Tr.

lithoxylaea Schiff. Wien Verz. I775. p. 74.
= mergodea Schrank. Faun. Boica. I802. 2(I). p. 333. ? species.

musicalis Esper. Eur. Schmett. I777. 4(2). p. 478. pl. I47 f. 5.

Placed as a synonym of lithoxylaea by many authors because Esper himself in his text includes it under that name. The figure and description however would seem to be that of the typical form of conspicillaris, it is therefore placed as a synonym of that species.

ab. horrida Dannehl. Mitt. Münch. Ent. Ges. I929. I9. p. I09.

Described as a form of lithoxylea but according to Sheljuzhko in vol. 44-45 p. 278 it belongs to sublustris Esp. the following species.

ab. brunnea Lambillon. Rev. Mens. Soc. Ent. Nam. 1911. 11. p. 56.

~~Draudt in Seitz suppl. 3. p. I56 gives this form but no reference. He describes it as follows --- forewings suffused with a chestnut brown, hindwings with a wide brown marginal band.~~

The reference and original description now available: ----
Forewings strongly charged with deep brown (maroon brown); the ordinary stigmata hardly visible, the markings more or less confused. Hindwings with brown marginal border invading half the wing.

Noct. 189.
p. I.

Apamea Tr.

sublustris Esper. Eur. Schmett. 1789. 4. (2). p. 408 pl. I35 f. I.
= musicalis Dup. Hist. Nat. Pap. France. 1827. 7. (1). p. 177 pl. II

aberrational forms etc.

ab. pallida Tutt. Entom. 1889. 22. p. II.

Ground colour whitish ochreous inclining to the pale colour of lithoxyloea, the dark shades very distinct and standing out clear in the pale ground; the transverse markings very distinct, a transverse wavy line being formed by the union of the row of dots parallel to the outer margin, with lunular arches. Hindwings dark grey with distinct lunule, a pale transverse line outside it, then a dark transverse shade followed by another pale marginal line.

ab. intermedia Tutt. Entom. 1889. 22. p. II.

Intermediate between pallida and the red form lithoxyloea Hubner (nec. Schiff.) Ground colour yellowish ochreous, with a dark grey tinge, the typical shades variable in depth of colour, and the transverse lines also variable in the extent of their development. This is the ordinary British form.

ab. horrida Dannehl. Mitt. Munch. Ent. Ges. 1929. 19. p. 109.

Described as a form of lithoxyloea but according to Sheljuzhko in Mitt. Munch. 44-45 p. 278 belongs to sublustris, in which species it would appear little different from typical examples, perhaps somewhat darker.

The whole surface of the wings thickly sprinkled with black-brown atoms on a satiated rust-yellow ground. The spot before the costa deep brown and extended below the median vein. Hindwing covered with brown, the cell spot well developed as a middle band.

ab. rufescens Cockayne. Ent. Rec. 1951. 63. p. 159.

The ground colour of the forewings is dull reddish-yellow, much darker than that of normal sublustris; the markings are darker reddish, less distinct than usual, and not contrasting sharply with the ground colour. Hindwings darker than usual. The aberration is darker, redder, and more unicolorous than nominotypical sublustris.

ab. versicolor Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 62. (nom. nov. pro lithoxyloea Hb)
= lithoxyloea Hbn. nec. Schiff. Samml. Eur. Schmett. 1807-03. pl. 49 f. 240.

Lempke renames the figure in Hubner erroneously identified as lithoxylaea, it is obviously a sublustris form.

Ground colour of the forewings clear yellow-brown, dark markings clear red-brown, sharply contrasting.

ab. dahlbomi Burrau. Opusc. Ent. Lund. . 15. p. 83.

Noct. 190.
p. I.

Apanoa Tr.

monoglypha Hufn. Berl. Mag. 1766. 3. p. 308.
= polyodon Linn. Faun. Suec. 1761. p. 322. (nom. preoc. Clerck.)
= radicea Schiff. Wien Verz. 1775. p. 81.

aberrational forms etc.

monoglypha Hufn. typical form --- Forewings brown grey with distinct markings and large whitish patch near the edge of the inner margin.

ab. pallida Fuchs. Jahrb. Nassau Ver. Nat. 1892. 45. p. 94.

Forewings unicolorous yellow-grey, without brownish infusion, with distinct markings

ab. pallida Bodart. Rev. Mens. Soc. Ent. Nam. 1906. 6. p. 48. (nom. preoc. Fuchs. 1892)

Forewings with all the generally pale spots and lines of a pure white. On the underside of all wings the colour is greyish rosy-white, much paler than in the type. *Original description.*

~~This description is from Turner's Brit. Noct., he makes it a synonym of pallida Fuchs which it does not appear to be. I have not seen the original description.~~

ab. pallida Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 63. (nom. preoc. Fuchs. 1892)

Ground colour of the forewings brownish-white, markings distinct.

ab. dissoluta Krulikovsky. Rev. Russe Ent. 1907. 7. p. 10.

Very similar to the preceding forms. The ground colour yellowish-white, with dark brown markings; the costal edge up to the whitish apex is covered with brownish-grey scales.

ab. albida Osthelder. Mitt. Münch. Ent. Ges. 1933. 23. p. 71.

Strikingly pale, the whole forewing whitish-grey with weakly developed darker markings.

Also very similar to the preceding forms but with the markings weaker.

ab. rosea Schonfeld. Int. Ent. 1. 1917. 11. p. 167.

The ground suffused with clear rose-red.

ab. pallida-fasciata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 65.

The whole space between the outer line and submarginal line whitish, for the rest as the typical form.

ab. contraria Lempke. Lamb. 1940. 40. p. 12.

As the typical form but the ground colour dark brown.

The typical form shows the whitish patch on the inner margin before the anal angle

ab. uniformata Weymer. Jahresber. Naturw. Ver. Elberfeld 1878. p. 18.

Forewings unicolorous dark brown. Stigmata and transverse lines distinct but with all the pale patches and spots of the typical form filled up with the dark brown.

ab. intacta Petersen. Lep. Faun. Estland 1903. n. 84.

= obscura Tutt. Entom. 1889. 22. p. 42. (nom. preoc. Th.-Mieg. 1886)

Forewings unicolorous grey-brown or brown, without the whitish patch at the inner angle seen in the type form, the markings less variegated.

Practically the same as the preceding but not dark brown as in uniformata Weym.

Tutt's obscura was "suffused brown or greyish with all the pale markings of the type brownish or dull greyish instead of whitish

ab. benesignata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 63.

Forewings unicolorously dark brown with distinct markings, the three transverse lines pale and sharply contrasting.

ab. brunnea Tutt. Entom. 1889. 22. p. 42.

Forewings of a deep rich brown or intense brown, the markings scarcely traceable.

ab. infuscata Buchanan-White. Faun. Perthensis 1871. I. p. 14.

= obscura Thierry Mieg. Le Naturaliste 1886. 8. p. 237.

Much darker than the type, the forewings very dark, black, occurring in Scotland and the North of England and West of Ireland. The distinctness of the markings varies exceedingly but generally they are distinctly marked in greyish.

obscura Th. Mieg had the forewings much darker than in the type being of a dark brown tending to black, the ordinary lines less apparent.

Our series of Scottish specimens varies from black-brown to black with a faint tinge of brown. When first caught these appear to be quite black and the brown tint comes on with age, since Buchanan-White lived in Scotland he would no doubt describe the form when fresh, Thierry Mieg on the other hand may well have described set specimens. It would appear therefore somewhat impossible to separate the two and they are regarded here as the same form

ab. aethiops Tutt. Entom. 1889. 22. p. 43.

An extreme development of infuscata B. White, the whole of the forewings intensely black with no paler markings and scarcely a trace of any markings whatever, some specimens are perfectly unicolorous.

ab. grisea Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 63.

Ground colour of the forewings dark grey, without the brown tint.

ab. inversa Derenne. Lamb. 1929. 29. p. 74.

Forewings of a uniform glossy black as far as the elbowed line, in this area the extra-basal line is marked in a duller black; the subterminal space is white, with black arrow marks; the subterminal line forming an M which shows up black on white longitudinal marks. The terminal area is also white arrowed with black, the fringe is scalloped in black. The reniform is well marked, white, crossed by a slight vertical black mark, the orbicular appears as a white remnant.

Normally the "M" mark of the subterminal line is white on a dark background but here it is black on white.

ab. juncta Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 64. (description vol. 82 p. 197.)

The orbicular and reniform join up but remain distinct.

ab. semiconfluens Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 64. (description vol. 82. p. 197.)

Instead of joining up the stigmata are united by a double line.

Noct. I9I.
p. I.

Apamea Tr.

epomidion Haworth. Lep. Brit. 1809. p. 170.
= ypsilon Borkh. Scriba's Beitr. 1791. 2. p. 128. (homonym. Hufn. 1767
= hepatica Borkh. Eur. Schmett. 1792. 4. p. 475 (et auct.) non. spec. Esp.
= caracterea Hubner. Samml. Eur. Schmett. 1800-03 f. 133. (prim. homonym
= nux Freyer. Neu Beitr. 1842. 4. p. 143. pl. 370. -yna. Esp. 1786.)

hepatica Linn. the name used formerly for the species applies to *Polia hepatica* Clerck, so cannot be used. The name *caracterea* was used by Esper (Eur. Schmett. 4 p. 471) pl. 142 fig. 3 under the name *nubila*.)

epomidion Haworth. typical form -- the original description says the wings varied grey and fuscous with three paler stripes, obsoletely dentate. Similar to the preceding, but distinct.

The "preceding" species was "The Clouded Bordered Brindle", called *hepatica* by Haworth, the *rurea* Fabr. of most authors but now called *crenata* Hufn. The colour of this would seem to fix the colour of *epomidion* as the lighter form common in England and not the darker, more purplish form which Tams has named *ab. lipara*.

ab. lipara Tams. South's Moths of Brit. Isles. 1961. I. p. 277 pl. 92 f. 5.
Much more richly suffused with purplish brown than the typical form.
The figure is very bad being more like the typical form.

ab. obscura Lempke. Entom. 1946. 79. p. 30. (*caracterea* Hbn. fig. Samml. Eur. Schmett. 638)
Ground colour of the wings fuscous-brown with yellowish-brown transverse lines and markings.

Lempke renames the dark insect figured by Hubner under the name *caracterea* on plate 139 fig. 638.

ab. alopeuroides Spuler. Schmett. Eur. 1905. i. p. 194.
"Corresponding to *ab. alopecurus*".

This is the original description so the form is unicolorous dark brown as in the *ab. alopecurus* of *crenata* Hufn., the following species.

? *ab. implexa* Hbn. Samml. Eur. Schmett. 1818-19. fig. 639.

Included as an aberration of this species by Lempke and some other authors but if it is, in my opinion it is merely meant to represent the form *epomidion* Haw. now treated as the type form. The artist has made the median area very heavily marked.

ab. extrema Lempke. Entom. 1946. 79. p. 29.

Like the typical form but the submarginal line absent; its dark brown inward bordering and the dark brown marginal area are wanting, they are replaced by the pale yellow-brown ground colour.

temera Hubner. Samml. Eur. Schmett. 1803-08. fig. 393.

Treated as an aberration of this species by some authors but from the figure would appear to belong to a different group. Lempke in Entom. 79 p. 30 says it is a *Euxoa* species.

crenata Hufn. Berl. Mag. 1766. 3. n. 92.
= alopecurus Esper. Eur. Schmett. 1788, 4. p. 473. pl. 147 f. 3.
(atepecurus on Esper's plate)

crenata Hufn. typical form -- forewings dark reddish-brown, the reniform brown in its centre but outlined in pale, all other markings obsolescent.
Esper's alopecurus would appear to be the same. In his text he does not say the reniform is outlined in black but that it is black, hardly visible, and rather light-grey bordered on the wing apex side. The ground colour is rust-coloured with indistinct spots and streaks. Both Tutt and Lempke quote Esper as stating that the reniform is outlined in black.

ab. rurea Fabricius. Syst. Ent. 1775. n. 618.
= luculenta Esper. Eur. Schmett. 1789. 4. (2). p. 410. pl. 133 f. 3-4. & pl. 188 f. 8.
Forewings whitish-grey with the costa, marginal field and a blotch at the inner angle, brownish.
Esper says himself that he can see no difference between his luculenta and the rurea of Fabricius.

ab. argentea Tutt. Ent. Rec. 1890. I. p. 12.
Forewings shiny silvery white with faint traces of the typical costal streaks in pale brownish. The typical darker area on outer margin very faintly marked in pale, and the typical dark longitudinal basal marks brownish, no trace of orbicular, transverse lines or central shades, the reniform faintly outlined. Hindwings grey, whiter at the anal angle.

ab. pallida Heinrich. Dtsch. Ent. Z. (1916) 1917. p. 515.
Of the grey-whitish ground colour of the type form with the red-brown markings or blotches inclining to disappear; therefore almost unicolorous grey-yellow. Not identical with ochrea Tutt since the ground colour is not ochre and the markings not red, as in Tutt's form.

ab. ochrea Tutt. Entom. 1889. 22. p. 59 & 60.
The ground colour yellowish with typical markings, which are, however, much paler and more distinctly red.
The "typical markings" mentioned by Tutt are of course those of rurea Fabr.

ab. intermedia Tutt. Entom. 1889. 22. p. 59 & 60.
The ground colour of a clear reddish-ochreous, the dark markings of rurea being clearly developed in a darker shade. Intermediate between ab. ochrea Tutt and ab. flavorufa Tutt (the following form).

ab. flavorufa Tutt. Entom. 1889. 22. p. 59 & 60.
Unicolorous, yellowish-red specimens. The typical markings of rurea F. almost entirely obsolete and lost in the ground colour. Both stigmata very distinct and outlined in yellow; some short yellow dashes along the costa which are the remaining parts of the obsolete line; a yellow patch at the costal base and a few yellow scales on the outer part of the otherwise dusky nervures, are the only markings on the forewings of this otherwise unicolorous variety.

ab. combusta Hubner. Samml. Eur. Schmett. 1803-08. fig. 366.
= combusta Haworth. Lep. Brit. 1809. n. 170. nom. preoc. Hubner.
Hubner's figure shows the costal part of the forewings yellowish-brown but the inner marginal area dark brown; the margins also widely dark brown narrowing towards the apex. The reniform is outlined in white which seems to bring the form nearer to rurea Fabr. than the unicolorous red-brown or brown forms.
The combusta of Haworth is the same as Hubner's according to the author who gives the reference to fig. 366 of the Samml. Eur. Schmett. Some authors regard it as different but it seems somewhat pointless to separate it in view of this and in any case the name is preoc.

ab. subrurea Petersen. Lep. Faun. Estland. 1902. p. 81.
Strongly darkened, mostly grey-brown, the markings very clear, especially the transverse lines and with no appearance of yellowish in the reniform.

ab. uniformis Warren. Seitz I9II.3.p.165.

Holly dull dark liver coloured with no markings except the pale inner and outer lines and the whitish edge of the reniform stigma, the hindwings as in the subsp. extincta, smooth pale grey. Described from Thibet and may belong to another species from its unusual appearance.

ab. nigro-rubida Tutt. Entom. I889.22.p.59 & 62.

Deep reddish-black and unicolorous. The most extreme melanic, no pale spots on costa, only a faint trace of the outline of the orbicular and outer edge of the reniform. Thorax of the same colour. Hindwings dark grey, nervures more dusky.

ab. putris Hubner. Samml. Eur. Schmett. I800-03. pl. 50 f. 24I.

The name on the plate is obviously placed for fig. 24I in error, putris is figured as 245 under the name lignosa. The correct name for the rurea form would therefore be ab. lignosa but most authors use the name putris as given on the plate, so it is used here to avoid confusion.

The main character from the figure would appear to be the darkening of the median area between the two transverse lines forming a band.

ab. juncta Lempke. Tijdschr. Ent. (I946) I949. 90.p.68. (description vol. 82.p. I97)
The orbicular and reniform join up but remain distinct.

ab. confluens Lempke. Tijdschr. Ent. (I946) I949. 90.p.68. (description vol. 82.p. I97)
The orbicular and reniform joined forming one single spot, their boundary absent at the point of juncture.

ab. albata Cockayne. Ent. Rec. I946. 58.p.74.

The markings of the forewing are of the usual colour and pattern, but the ground colour is pure white.

Noct. I93.
p. I.

Apamea Tr.

sordens Hufn. Berl. Mag. I766.3.p.306.
= basilinea Schiff. Wien Verz. I775.n.78.
= nebulosa Vieweg. Tab. Verz. I789.2.p.55.pl. I.f.6.

aberrational forms etc.

sordens Hufn. typical form -- forewings brownish grey.

ab. pallida Tutt. Entom. I889.22.p.254.

Ground colour of the forewings pale ochreous grey, not fuscous, with still paler transverse lines, and no ferruginous or reddish clouds, otherwise like the type.

ab. unicolor Tutt. Entom. I889.22.p.254.

Ground colour dark reddish-brown, with a slight purplish tinge; the stigmata indistinct, also the subterminal. Hindwings very dark grey, nervures dusky, lunule indistinct.

ab. cinerascens Tutt. Entom. I889.22.p.255.

Forewings of a dull ashy-grey with no trace of the ferruginous markings of the type; the subterminal of a paler shade, the reniform internally edged with paler. Hindwings of the same dull colour as the forewings.

ab. alinea Turner. Ent. Rec. Suppl. I93I.43.p. (2I2). (Turner Brit. Noct.)

The forewing showing no basal black streak.

ab. cruda Lempke. Tijdschr. Ent. (I946) I949.90.p.69.

Forewings with sharply contrasting transverse lines.

ab. nictitans Lempke. Tijdschr. Ent. (I946) I949.90.p.69.

Orbicular and reniform both with dark circumscription, sharply contrasting.

ab. reducta Lempke. Tijdschr. Ent. (I946) I949.90.p.69.

The orbicular stigma fails.

ab. juncta Lempke. Tijdschr. Ent. (I946) I949.90.p.69. (description vol. 82.p. I97)

The orbicular and reniform join up but remain distinct.

- infesta Treitschke. Schmett. Eur. I825.5. (2).p. II2.
 = sordida Borkh. Eur. Schmett. I792.4. n. 578. (nom. preoc. Goetze I781
 = anceps Hbn. Samml. Eur. Schmett. I809-I3. pl. I02 f. 384. (nom. preoc. Schiff.

aberrational forms etc.

infesta Tr. typical form -- forewings grey with brownish clouding.

ab. ochracea Tutt. Entom. I889.22. n. 230.

Of a very pale ochreous-yellow ground colour, strongly tinged with red, one specimen entirely reddish-ochreous, with the stigmata and transverse lines very pale grey. As in ab. renardii there is scarcely any of the dirty grey colour present in the type, except on the outer margin.

ab. renardii Boisduval. Ind. Meth. Addenda I829. p. 5. (Guenee Noct. I. p. I95.)

Forewings unicolorous white-ochreous except in the terminal area where there remains some traces of greyish; all the markings have disappeared. Hindwings of a dirty white, shining, and without spots.

This is the description by Guenee, I have not seen the original.

ab. lactea (Cockayne, in litt.) Turner. Ent. Rec. Suppl. I933. 45. p. (262) (Brit. Noct.) Head, thorax, abdomen and ground colour cream coloured. A thin blackish transverse line on middle of collar; abdominal crests tipped with light brown; basal first and second lines brown with lighter brown clouding proximal to the first line; the central shading in orbicular and reniform and the lines between first and second lines are also lighter brown and very distinct; distal to the second line is a row of black dots on nervures 2, 3, 4, 5, 6 and 7 and along termen is a row of minute interneural black crescents; the marginal dark band is only indicated as a faint shade between nervures 5 and 6 and as a crescentic mark near the anal angle fringes chequered, cream-coloured at nervures and brown between. Hindwings cream-coloured with brown scaling along proximal part of nervures and with the usual dark bands cream-coloured and only slightly darker than the ground. A very narrow brown line runs along the margin between the nervures; fringes white. The almost unmarked creamy outer part of the forewings gives it an appearance very different from other forms.

ab. engelhartii Duurloo. Ent. Medel. I889. 2. p. 86.

Much paler than typical form. Upperside ashy-white, sometimes having pale brown mixture; orbicular and reniform, transverse and anterior marginal stripes somewhat paler, the wavy lines obsolete only distinct towards the apex. No longitudinal streaks black, usually very distinct but at the base disappearing. Marginal area of the costa spotted black and white.

Very similar to ab. renardii Bsd. but possibly showing more marking.

ab. nigrescens Hannemann. Int. Ent. Z. I9I7. I0. p. I2I

The ground colour darkened to black-grey.

ab. mediana Warren. Seitz. I9II. 3. p. I67. pl. 40 row A f. 5.

The brown-grey ground colour without dark speckling; the inner and outer lines single, black and distinct; the median shade-line, generally inconspicuous, is thick and black and the space between it and the outer line deeper brown (forming a transverse band.)

ab. juncta Lempke. Tijdschr. Ent. (I946) I949.90.p.73. (description vol. 82. p. I97)
The orbicular and reniform join up but remain distinct.

ab. semiconfluens Lempke. Tijdschr. Ent. (I946) I949.90.p.73. (descript. vol. 82. p. I97)
The stigmata are united by a double line.

The ab. sordidula Strand mentioned by Turner in his Brit. Noct. p. (262) under this species belongs to the genus Oligia and the species sordida Btlr., not to infesta.

Oct. 195.
p. 1.

Apamea fr.

remissa Hubner. *Synnl. Eur. Schmelt. 1809-09. fig. 43.*

aberrational forms etc.

remissa Hbn. -- typical form -- forewings variegated grey-brown and darker brown. The median area blackish brown except at inner margin and the stigmata which are paler grey-brown standing out sharply; another pale area between the outer transverse line and the subterminal beyond which there is another dark, marginal, area. A black line, or bar, links the two transverse lines above the inner margin.

ab. obscura Haworth. *Lep. Brit. 1809. p. 189.*

= *gemina* Hbn. *Synnl. Eur. Schmelt. 1809-13. fig. 482.*

Forewings blackish-brown with lighter transverse lines and stigmata but showing little contrast as in the preceding *remissa* Hbn. The darkest form of the species, not showing the black bar between the two transverse lines

ab. rufescens Tutt. *Entom. 1889. 22. p. 304.*

A reddish or brownish-grey mottled form, without the black bar between the two transverse lines.

ab. submissa Treitschke. *Schmelt. Eur. 1825. 5. (1). p. 346 & 348.*

= *intermedia* Tutt. *Entom. 1889. 22. p. 304.*

= *intermedia-grisea* Tutt. *Entom. 1889. 22. p. 304.*

= *intermedia-rufa* Tutt. *Entom. 1889. 22. p. 304.*

Intermediate between *remissa* and *gemina*. Treitschke says transitions occur which stand between these two, the pale ground is not so pale as in *remissa*. Tutt described the two shades of colour, grey and reddish, under the heading "intermedia". Since his *intermedia* is a synonym of *submissa* it is hardly necessary to keep them separate, one colour running into the other.

ab. supermissa Spuler. *Schmelt. Eur. 1905. I. p. 195.*

The most variegated or contrasted form. The basal area and sometimes the costal area much paler, the greyish white or yellow colour extending to the reniform, the pale orbicular stands out sharply in the dark middle field and the marginal area is much darkened.

Little different from *remissa* Hbn., possibly a synonym. Lempke treats it as an extreme form of *remissa* Hbn.

Noct. I96.
p. I.

spanea Tr.

unanimis Hubner. Samml. Eur. Schmott. I909-I3. fig. 556.

aberrational forms etc.

ab. rufithorax Warren. Seitz I9II. 3. p. I68.

Described under this species but is *secalis* Linn. The Type is in the Rothschild collection. For description of the form see under *secalis*.

ab. fasciata Warren. Seitz. I9II. 3. p. I68. pl. 40. row d.

The median area filled up with dark fuscous, the pale upper stigmata and the inner and outer lines more conspicuous.

ab. semiochrea Warren. Seitz. I9II. 3. p. I68.

The postmedian area between the outer and submarginal lines and the lower part of the median area pale ochreous, and might easily be taken for an example of *secalis*. ab. *oculea* Guen.

The Type is in the Rothschild-Cockayne-Kettlewell Coll. and is *unanimis* without doubt.

ab. *secalina* Haworth. Lep. Brit. I809. p. 210.

Wings varied with grey and fuscous with two pale stripes and whitish stigmata, the median fascia abbreviated and deeper in colour. Haworth then describes a var. B which shows a black line in the median fascia. Warren, Lempke and other authors include this character in *secalina* but actually Haworth did not give it a name. The figure in Hubner cited by Haworth is a *secalis* form (Samml. Eur. Schmott. fig. 420.)

ab. *scortea* Herrich-Schaffer. (Lederer). Syst. Bearb. I845. 2. pl. II4 figs. 582-3.
(see Nachtrage 2. p. 57)

The figures show a form of *unanimis* with the ground colour paled (as in *remissa* Hbn. compared with its darker form *obscura* Hbn.). The colour is yellowish brown instead of the dark brown of the typical form, the median area of a darker brown, the contrast especially showing in fig. 582. Fig. 583 is more intermediate between ab. *scortea* and the typical form, but still showing a paler ground. Herrich-Schaff. states that Lederer was the author of the name.

ab. *nigrobrunnea* Hoffmann. Its. Ost. Ent. Ver. I9I6. I. p. I4.

Dark brown, almost without marking, the usual light transverse stripes are hardly visible, the most distinct is the outer one towards the inner margin. The stigma is outwardly finely white-bordered, as in the typical form.

ab. *flavomaculata* Lempke. Tijdschr. Ent. (I946) I949. 90. p. 70.

The reniform stigma not outlined in white but in yellow.

ab. *juncta* Lempke. Tijdschr. Ent. (I946) I949. 90. p. 70. (description vol. 82. p. I97)

The orbicular and reniform join up but remain distinct.

Noct. 197.
p. I.

Ananica Tr.

oblonga Haworth. Lep. Brit. 1809. p. 180.
= variegata Staudinger. 1871. Cat. Ed. 2. p. I. I (abjecta. II-1. 6, I

aberrational forms etc.

oblonga Haworth. typical form -- the variegated form; ground colour paler than the darkened costa, the stigmata pale and standing out sharply in contrast.

ab. abjecta Hubner. Samml. Eur. Schmett. 1809-13. pl. II 6 f. 539.

The figure shows the forewings brownish-grey with pale transverse lines, the subterminal being bordered with blackish elongated spots, the stigmata of the same colour as the ground. The form would seem to be intermediate between the typical oblonga (variegata) and the darker form lunulina Haworth.

ab. lunulina Haworth. Lep. Brit. 1809. p. 192.

= unicolor Tutt. Entom. 1889. 22. p. 209.

Forewings fuscous with four obsolete pale stripes edged with minute black lunules; several pale spots and a lunule on the edge of the reniform, the orbicular wanting; the subterminal dentate and on the margin itself a row of extremely minute black spots.

This would seem to be the commoner English form with less marking than the preceding abjecta Hbn. and somewhat darker. Tutt's unicolor, which he says is our more general form, was brownish-grey with no distinct markings. Neither of these descriptions suggest that the forms are blackish so they are considered to be brownish-grey with few markings, the blackish forms being separated as fribolus Freyer.

ab. fribolus Boisduval. Icones 1834. 2. pl. 84 f. 4.

= nigricans Freyer. Neu Beitr. 1836. 2. p. 92. pl. I 49 f. I.

= nigro-distincta Tutt. Entom. 1889. 22. p. 209.

The figure shows the forewings blackish-brown, the markings visible but not standing out owing to the dark ground.

The nigricans of Freyer would appear to be the same form though the figure is more greyish-black than brownish, but dark brown is given in the text. The marking can be clearly seen.

Tutt says his nigro-distincta is similar to fribolus Bsd. with all the markings clearly showing, I can see no reason therefore for his naming it.

Noct. 198.
n. I.

Apanoa Tr.

furva Schiff. Wien Verz. 1775. p. 81.

aberrational forms etc.

furva Schiff. typical form -- brighter and more variegated than our usual British form which is separated as subsp. britannica. The typical form however does occur in the Burren, Co. Clare, Ireland, in other parts it is the same as in the rest of Britain. We have a short series from the Burren which agree entirely with the Continental series from France, Switzerland, Hungary etc.

furva
subsp. britannica Cockayne. Ent. Rec. 1950. 62. p. 67.
Small, dark and obscurely marked, often with no white scales in the reniform. or bordering it, greyish brown in colour.
The subspecies occurring in Britain with the exception of a small area in Co. Clare where the typical form is found.

ab. nictitans Lenz. Schmett. Sudbayern 1927. I. p. 275. pl. 14 f. 12.
With strikingly pale reniform.
This may or may not occur in the British race but was described from Continental specimens which are much more variegated than ours.

Noct. 199.
p. I.

Aranea Fr.

pabulatricula Brahm. Ins. Kal. 1791. 2. (I). p. 395.
= *connexa* Borkh. Eur. Schmett. 1792. 4. p. 360.

aberrational forms etc.

ab. *elota* Hubner. Samml. Eur. Schmett. 1808-18. pl. 98 f. 462.

= *semibrunnea* Petersen. Beitr. Kunde Est.-Liv. u. Kurlands 1902. p. 84.

The coloured figure shows the forewings brownish-ochreous from the base to the postmedian transverse line, the rest of the wing being normal silvery-grey. Petersen's *semibrunnea* had the basal half of the forewings, up to the reniform and outer transverse line, uniformly brown or brown-black, the outer half remaining pale. He later stated that the form was the same as Hubner's *elota*.

ab. *conjuncta* Spuler. Schmett. Eur. 1905. I. p. 196.

The pale basal area is united with the pale marginal area, above the obsolescent *stigmata*, by a broad white-yellow area or stripe along the costa.

This in short appears to mean that the black marking on the costa, between the reniform and orbicular, is absent.

Photocopies of Noct 200 p.1 - Noct 200 p.5
(5 pages)

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secalis Linn. Syst. Nat. 1758. Ed. 10. p. 519.
= furca-flavo Tutt. Brit. Noct. 1891. I. p. 93 & 97.

aberrational forms etc.

Forms with dark costal patch,-----

secalis Linn. typical form -- now generally accepted as reddish-grey or reddish-ochre with a large costal patch of a dark red colour, somewhat similar to the pattern of ophiogramma. See Lempke in Tijdschr. Ent. 90. p. 79, who states that the reniform is yellow in the shape of a latin a-Q from the description by Rolander to which Linnaeus referred.

Tutt's furca-flavo was reddish-ochreous, the costal area dark reddish-brown, the stigma not white but yellowish.

ab. furca Haworth. Lep. Brit. 1809. p. 209.

= ochracea Turner. Ent. Rec. 1932. 44. Suppl. p. (227).

Forewings ochraceous, the costal margin posteriorly broad fuscous, the stigma white fronted, the stripes fuscous. Extremely similar to the preceding "biloba" (ophiogramma) but the costal band paler, more indefinite and broken. Hindwings fuscous.

ab. rava Haworth. Lep. Brit. 1809. p. 209.

Forewings more or less rufous, margin broader and posteriorly more irregularly broad fuscous, the reniform white fronted, the stripes fuscous. Extremely like the preceding form (furca) but constant. Forewings with wavy stripe, paler before the fuscous hind-margin, more conspicuous than in the preceding but almost obsolete. This is apparently the same as furca but rufous instead of ochraceous and more trace of a wavy stripe. Whether this refers to the transverse line or the wider pale space before the subterminal is not clear. Lempke, probably following Tutt, describes the form as having a dark median band but there is no mention of such in the original description.

ab. rava-flavo Tutt. Brit. Noct. 1891. I. p. 93 & 97.

Tutt describes rava Haworth according to his own translation of the latin, as follows - reddish or reddish-ochreous with a dark fuscous costal area continued down the central area to form a central band but without blackish bar in the middle, the reniform whitish. His rava-flavo must therefore follow this description, with the reniform ochreous instead of white

ab. oculea Guenee. Hist. Nat. Ins. 1852, 5, Noct. I. p. 210.

Forewings whitish-grey or whitish-ochreous, the costal with a broad, almost black patch extending along almost its whole length, the reniform whitish.

This is Tutt's description of Guenee's Type.

ab. oculea-flavo Tutt. Brit. Noct. 1891. I. p. 93 & 95.

Pale like the preceding oculea Guen., with the same dark costal mark but with the reniform ochreous instead of white.

ab. struvei-excessa Turner. Ent. Rec. 1932. 44. Suppl. (Brit. Noct) p. (228)

= albo-excessa Turner. (nom-nud.) Ent. Rec. 1932. 34. Suppl. p. (223)

The ground colour white resembling struvei Rag. (see p. 2) but with the white ground continuing along the inner margin uniting the basal and subterminal white areas. The basal and subterminal contrast strongly with the dark costal patch which in struvei is continued down to the inner margin to form a band.

Forms with dark median band ----

ab. didyma Esper. Eur. Schmett. 1788. 4 (2). p. 378 pl. 126 f. 7.

Forewings ochraceous or leather-brown, sometimes tending to reddish, with darker median band which contains the black horizontal bar extending from the claviiform. The reniform whitish.

ab. didyma-flavo Tutt. Brit. Noct. 1891. I. p. 93 & 97.

Like the preceding didyma Esper but with the reniform yellowish.

ab. i-niger Haworth. Len. Brit. 1809. p. 211.

Forewings grey, the median area black and fuscous varied, with a black horizontal line extending from the claviiform below the upper stigmata. The reniform ochraceous.

ab. i-niger-albo Tutt. Brit. Noct. 1891. I. p. 93 & 95.

Forewings as in i-niger Haworth but the reniform white instead of ochraceous.

ab. virgata Tutt. Brit. Noct. 1891. I. p. 93 & 95.

= virgata-albo Tutt. Brit. Noct. 1891. I. p. 95.

Whitish or yellowish grey with darker central band, without the claviiform black line and therefore different from ab. i-niger Haworth. The reniform whitish.

ab. virgata-flavo Tutt. Brit. Noct. 1891. I. p. 93 & 95.

Forewings as in the preceding virgata Tutt but with the reniform ochreous instead of whitish.

ab. secalina Hubner. Samml. Eur. Schmett. 1808-09. pl. 89 f. 420.

= secalina-linea Tutt. Brit. Noct. 1891. I. p. 93 & 96.

The figure in Hubner shows the ground colour reddish-brown, the median area somewhat darker with the claviiform black line developed. The reniform yellowish. Tutt seems to have described or looked at a wrong figure in Hubner since he states that there is no black claviiform mark in the median area so proceeds to name the form in which there is such a line as secalina-linea, which thus becomes a synonym.

ab. struvei Ragusa. Nat. Sic. 1885. 4. p. 274 pl. 4 f. 7.

The basal and subterminal areas white.

The figure shows some transverse lines in both of these areas but the ground colour pure white. Turner says that the figure does not agree with the description which is puzzling, it is a good one and shows the median area dark brown in the form of a contrasting dark transverse band.

ab. lilacina Warren. Geitz. 1911. 3. p. 171. pl. 40 row h f. 7.

The ground colour dull lilac-grey in the basal and postmedian areas, with the median and terminal areas more diffusely dull rufous brown; the reniform filled up with lilac-grey.

ab. lilacina-flavo Wightman. Ent. Rec. 1933. 45. p. 99.

Like lilacina Warren (the preceding) but with the reniform yellowish instead of lilac-grey.

Reticulated and unicolorous forms ---

ab. nictitans Esper. Eur. Schmelt. 1788. 4. (2). p. 375. pl. 126 f. 6. (nec. f. 5)
Forewings dark brown, the markings hardly visible except the white reniform.
The figure shows no black bar from the claviform.

ab. nictitans-linea Tutt. Brit. Noct. 1891. I. p. 93 & 96.
Forewings like the preceding nictitans Esper but with the black bar from the claviform developed, the reniform white.
This form usually has the black transverse lines more prominent than in nictitans Esper.

ab. reticulata-albo Tutt. Brit. Noct. 1891. I. p. 93 & 95.
Ground colour grey, whitish-grey or yellowish-grey, the transverse markings present, giving a reticulated appearance, but no black bar from the claviform; the reniform more or less distinctly white but sometimes only the outer edge white.

ab. reticulata-flavo Tutt. Brit. Noct. 1891. I. p. 93 & 95.
Like the preceding but with the reniform yellowish, probably the commonest form.

ab. secalina-albo Tutt. Brit. Noct. 1891. I. p. 95.
= secalina var. of Haworth. Lep. Brit. 1809. p. 211.
The ground colour grey with transverse lines as in reticulata Tutt but showing a black bar from the claviform which is not present in reticulata. The reniform white.

ab. secalina-flavo Tutt. Brit. Noct. 1891. I. p. 93 & 95.
Like the preceding but with the reniform ochreous.

ab. pulverosa Warren. Seitz 1911. 2. p. 171. pl. 49 row h.
Somewhat like reticulata Tutt but darker, suffused with brown and clouded, especially along costa with blackish fuscous, in places thickly imbricated with whitish scales; veins strongly dusted with dark and pale scales. The reniform with external margin yellow-ochreous except at the lower end which is white.
The type is in the Rothschild coll. and appears to be a dark reticulata Tutt somewhat variegated with whitish scales.

ab. lugens Haworth. Brit. Lep. 1809. p. 212.
Forewings blackish, the markings even blacker, a row of obsolescent pale spots before the margin; the reniform white. No black bar developed from the claviform.

ab. lugens-flavo Tutt. Brit. Noct. 1891. I. p. 93 & 97.
Like the preceding lugens Haworth but with the reniform ochreous instead of white.

ab. leucostigma Esper. Eur. Schmelt. 1791. 4. (2). p. 342. pl. 159 f. 7.
= albistigma Tutt. Brit. Noct. 1891. I. p. 93 & 96.
Various authors, including Tutt, give a wrong description of leucostigma Esp., probably because they have gone by the figure and ignored the description. Esper himself says "very similar to persicariae but much smaller. Dark brown with a reddish tinge, the reniform whitish or yellowish, with a black streak in its middle and a small spot near it. These are the only markings." See next page.

ab. leucostigma Esper. continued from previous page.

There is no mention of an intense black bar from the claviform which Tutt calls the "black streak" mentioned in Esper's description is in the reniform not on the wing, the reniform is white according to the first part of the description and is white in the figure, not yellow as Tutt states. Tutt names the form with white reniform albistigma which thus becomes a synonym.

The ab. leucostigma then is unicolorously blackish brown with no markings except the white reniform.

ab. xanthostigma Schawerda. Zts. Ost. Ent. Ver. 1932. 17. p. 30.

The stigmata yellow. In leucostigma they are pure white.

Presumably Schawerda is naming the form like leucostigma but with the reniform yellow, but does not actually say so.

ab. flavistigma Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 80.

= leucostigma Tutt (nec. Esper) Brit. Noct. 1891. I. p. 93. & 97.

Forewings blackish, transverse lines still darker, an intensely black line from the claviform to the second transverse lines and with the reniform yellow. Tutt gave this description to Esper's leucostigma which, for some obscure reason, he imagined had a yellow reniform, despite its name, meaning white stigma.

ab. nigra-albo Tutt. Brit. Noct. 1891. I. p. 93 & 97.

Unicolorous blackish, with no transverse lines, or bar from the claviform. The reniform whitish.

ab. nigra-flavo Tutt. Brit. Noct. 1891. I. p. 93 & 97.

Like nigra-albo the preceding, but with the reniform yellow.

ab. grisea-albo Tutt. Brit. Noct. 1891. I. p. 93 & 94.

Forewings unicolorous grey, whitish-grey or yellowish-grey, with scarcely a trace of the ordinary transverse lines or stigmata, the reniform whitish but hardly distinct from the ground colour. No black bar developed from the claviform.

ab. grisea-flavo Tutt. Brit. Noct. 1891. I. p. 93 & 95.

Like the preceding grisea-albo but with the reniform indistinctly ochreous.

ab. rufa-albo Tutt. Brit. Noct. 1891. I. p. 93 & 96.

Forewings unicolorous reddish-brown, ferruginous red or purplish-brown without transverse lines, the stigmata scarcely traceable except the reniform which is whitish. No black bar developed from the claviform.

ab. rufa-flavo Tutt. Brit. Noct. 1891. I. p. 93 & 96.

Like the preceding rufa-albo but with the reniform ochreous.

ab. uniformis Spuler. Schmett. Eur. 1905. I. p. 195.

Reddish yellow-grey pale form, unicolorous; the markings fine and less contrasting.

ab. atrocyanea Krulilovsky. Rev. Russe Ent. (1909) 1910. 9. p. 307.

Forewings black with bluish sheen; all markings indistinct, the reniform white. The author states that the form is rare in the eastern provinces of Russia, it probably occurs elsewhere so is included here.

ab. lancea Esper. Eur. Schmett. 1786. 4 (2). p. 663 pl. 174 f. 5.

The figure, very bad, shows a rust coloured ground colour with distinct black markings, especially the black bar above the inner margin, giving a variegated effect. The description says rust colour sprinkled with black spots and atoms, a broad, lighter suppressed band stands near the outer margin bordered on both sides with a yellowish line; at the inner margin a black stripe, elongated and extending to the base, and also (on its outer side) extending down to the inner margin, therefore branch-shaped.

The figure shows this peculiar character which must be rare. There is often a blackish streak near the base of the forewing and this apparently unites with the black bar (which is an extension of the claviform) and gives a branch effect.

ab. armoricae Culot (Oberthur) Noct. 1909-13. I. p. 164 pl. 30 f. 7.

There is no description. The coloured figure shows the forewings exceptionally pale, whitish-straw with the stigmata finely outlined in black; the lower part of the two transverse lines show as fine lines, united by the black bar from the claviform which is distinct; faint traces appear of the subterminal line. The hindwings are white.

ab. obsoleta Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 81.

The reniform and claviform (orbicular) stigmata unicolorous with the ground colour, markings hardly visible. To be met with in all colour forms. In his Dutch description Lempke says the reniform and orbicular, in the English one "claviform" is obviously a mistake and should read orbicular.

ab. juncta Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 81. (description vol. 82. p. 197)
The orbicular and reniform join up but remain distinct.

ab. semiconfluens Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 81. (description vol. 82. p. 197)
Instead of joining the stigmata are united by a double line.

ab. clausa Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 81. (description vol. 82. p. 197)
The first and second transverse lines join at the inner margin.

ab. binota Turner. Ent. Rec. 1932, 44. Suppl. p. (228)

The ground colour nearly black. The reniform is white and there runs out from it to the line limiting the central area a further patch of white. The appearance is as though the reniform were duplicated.

ab. rufithorax Warren. Seitz 1911. 3. p. 168.

Warren described this under unanimis but the type (Rothschild Coll.) is certainly secalis. Since specimens with the thorax rufous are not unusual in this (secalis) the name is best dropped.

ab. struvoculea Aubert. Papill. Eur. II. p. 39. ?

Noct. 201.
p. I.

State 1.

ophiogramma Bremer. Eur. Schmett. 1793. () . D. 1. 1.
- biloba Haworth. Linn. Brit. 1800. p. 203.

aberrational forms etc.

ophiogramma Bremer. typical form -- ground colour light ochre-yellow mixed with brownish. Haworth described his biloba as grey and gives the figure in Linnaea Samml. Eur. Schmett. pl. 76 f. 355 as the same species. Some authors separate biloba as the lighter form but the light ochre-yellow and grayish specimens have no real division so are placed here as the same thing.

ab. rufescens Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 82.

Ground colour of the forewings red-brown, in the typical form it is yellowish-ochre.

ab. macrens Staudinger. Cat. 1901. Ed. 3. p. 164. fig. Tijdschr. Ent. 49. pl. 12 f. 3.

The ground colour strongly obscured with blackish, making the forewings almost unicolorous.

Noct. 202.
p. I.

Apanea Tr.

scolopacina Esper. Eur. Schmett. 1786. 4. (2). p. 394. pl. I 50 f. I.
= abbreviata Haworth. Lep. Brit. 1809. p. 170.

aberrational forms etc.

ab. hammoniensis Sauben. Verh. Ver. Nat. Hamb. 1899. 10. p. 69. ~~1899~~

Clear black-brown from base of forewings to beyond the middle, one portion of the white outline of the reniform quite outside this darkened portion and is pure white, the other portion darkened; the outer third of the wing is like the typical form slightly darkened but still of a yellow-brown.

This description is from Turner's Brit. Noct. Warren's description is Beitz is quite different. I have not seen the original.

ab. unicolor-brunnea Wagner. Mitt. Münch. Ent. Ges. 1924. 12. p. 39.

Almost without marking, reddish nut-brown, only the costa and central cloud are a shade darker; the usual colour of the typical form, pale fawn-yellow, as well as the outline of the reniform, are completely absent.

ab. unicolor-nigra Wagner. Mitt. Münch. Ent. Ges. 1924. 12. p. 39.

Almost markingless as in the preceding but almost black; only in the marginal area is it indistinctly paler.

ab. beneditoi Gounjo. Eos 1915. 21. p. 107. pl. 1. f. 1.

Very near unicolor-brunnea Wagner but differs in that neither the costa nor the median shadow are darker than the ground colour which is intermediate between the two figures in Guet's art, plate 28 figs. 7 & 9. All the patterning is missing with the exception of the black spots marking the external angle of elbow line and a little light red scaling representing the extra-basal line which is more accentuated along the inner margin; the orbicular spots are absent the reniform almost invisible. The terminal area has the same pattern as the typical form and a deeper coloration than the scaling of the sub-basal line; interneural lines blackish-chestnut instead of black. Hindwings less dark than the typical form, of a soft golden colour. The underside of the fore and hindwings is of a light golden shade without the thin black postmedian line which normally runs through from forewing costa to the anal angle of the hindwing. The description is not very clear. The colour of the two figures in Guet's art, which incidentally are not of scolopacina, is more reddish tinted than usual scolopacina and presumably beneditoi is reddish yellow-brown with little marking except in the terminal area. The figure is bad and does not help greatly.

Noct. 203.
p. I.

Adamed Tr.

Ypsilon Schiff. *Nida Verz.* 1775. n. 78.
= *fissipuncta* Haworth. *Lep. Brit.* 1809. p. 157.

aberrational forms etc.

Ypsilon Schiff. typical form --generally accepted as light brown-grey.

ab. *corticea* Esper. *Eur. Schm.* 1788. 4. (2). pl. 145 f. 2 & 3. (nec *Text* p. 143 1805.).
Lempke in *Tijdschr. Ent.* 90. p. 83 accepts Tutt's fixation of *corticea* Esper as the reddish form of the species. Tutt's description of the figure is - forewings reddish-brown, the nervures blackish, the subterminal in the form of arches and the stigmata outlined in black. I would keep Esper's name for all the red forms of this species independent of the special development of the claviform which is a most inconstant character.

Why Tutt should describe *corticea* as reddish is puzzling. Esper in his text refers to it as dark brown in the male and more mixed with pale grey in the female. The figure in our copy of *Eur. Schm.* pl. 145 f. 2 shows practically no red.

ab. *cinerea* Heinrich. *Dtsch. Ent. Z.* 1927. Beiheft p. 87.
Pale ash-grey ground colour without any mixture of yellow.

ab. *obscura* Favre. *Mitt. Schweiz Ent. Ges.* 1897. 10. p. 36.
Much darker and browner than the typical form.

ab. *nigrescens* Tutt. *Brit. Noct.* 1892. 2. p. 159 & 160.
Dark or blackish fuscous.
Tutt says this is the var. μ of Haworth.

ab. *variegata* Tutt. *Brit. Noct.* 1892. 2. p. 159 & 160.
Variegated, dark with pale markings. Ground colour approaching that of *nigrescens* Tutt, costa marked with a series of short black streaks; the orbicular and upper part of the reniform are very pale; claviform also pale; the nervures pale, the spaces between them of the darker ground colour, causing it to have a somewhat striated appearance; the basal lines pale, the elbowed indistinct, the subterminal also pale. Very different in appearance from typical form.

ab. *obsolescens* Lenz. *Ostholder Schm.* Sudbayern 1927 I. p. 321. pl. 16 f. 13.
Of the markings only the surrounds of the stigmata and the subterminal line are present.

ab. *conjuncta* Warren Seitz. 1911. 3. p. 179 pl. 41. row i.
= *juncta* Lempke. *Tijdschr. Ent.* (1946) 1949. 90. p. 84. (description vol. 84. p. 197)
The upper stigmata strongly conjoined.
Lempke's *juncta* had the reniform and orbicular joined but remaining distinct.

ab. *semiconfluens* Lempke. *Tijdschr. Ent.* (1946) 1949. 90. p. 84. (descript. vol. 82. p. 197)
Instead of joining the stigmata are united by a double line.

ab. *confluens* Lempke. *Tijdschr. Ent.* (1946) 1949. 90. p. 84. (descript. vol. 82. p. 197)
The orbicular and reniform joined forming one single spot, their boundary absent at the point of juncture.

ab. diluta Cockayne. Ent. Rec. 1951. 63. p. 158 pl. 5 f. 6 and descript. p. 159.
The head, thorax and forewings are pale brownish-grey with the markings a slightly darker shade instead of blackish-brown, abdomen whitish-grey. Albinistic or dilute form.

orenburgensis Bartel is treated as a subspecies not occurring in Britain.

exulis Lefebvre. Ann. Soc. Ent. Franc 1856. 3. 295-301. To 1. ---

aberrational forms etc.

exulis Lef. --- the typical form does not occur in Britain.

exulis

assimilis Doubleday. Zoologist 1847. 5. p. 1914.

= doubledayi Buchanan White. Scottish Nat. 1873-4. 2. p. 375-6.

The very dark subspecies from Scotland. Rich umber-brown, almost black and glossed with purple.

Buchanan White renamed assimilis because it was described as a species and considered it wanted another name when found to be exulis.

exulis

subsp. nov.

The Shetland exulis are large and most varied in colour and are worthy of subspecific rank. Apparently they have not yet been named.

ab. *conjuncta* Heydemann. Ent. Z. 1932. 46. p. 30.

The black streak or bar developed from the claviform in a most distinct degree.

ab. *nigrolimbata* Wolff. Ent. Medd. 1935. 19. p. 230 & 1947. pl. I. 2. 5.

Basal area black, bordered with whitish; central area brownish-olive, slightly incompletely outlined in black, posterior edge white and distinct. The outer area much darker than the median band, suffused with black scales, on the vein five small white striae, the subterminal line fine, whitish.

The main character, from the good figure, is the contrasting appearance of the thin white postmedian line on the dark ground colour which covers the outer area normally whitish or whitish-grey; there is also a thin white basal line. The following ab. *albilinea* Cockayne is extremely similar, if not the same, but can be separated if desired, by the outer area not being darker than the median, as is the case in the present form.

ab. *albilinea* Cockayne. Ent. rec. 1951. 63. p. 159. pl. 5 f. 10.

Possibly the same as the preceding form. The median area normal, the marginal area greyish; the ante and postmedian lines each bordered by a clear white line which begins at the costa and reaches the inner margin. These two complete white lines give the aberration a distinctive and beautiful appearance. Apparently the outer area is not quite so dark as in the preceding form.

ab. *ferruginea* Loritz. Z. f. d. Ent. Ges. ?

- latruncula Schiff. Wien Verz. 1775. p. 89.
= latruncula Hbn. Samml. Eur. Schm. 1800-03. pl. 20 f. 94.
= aerata Esper, Eur. Schm. 1790. 4. (2). p. 468. pl. 146 f. 6.

aberrational forms etc.

latruncula Schiff. typical form -- Ground colour dark brown or brownish-grey with two whitish transverse lines showing on the lower half of the wings; the outer area light red-brown.

ab. meretricula Borkhausen. Eur. Schm. 1792. 4. p. 187.

Ground colour brown somewhat suffused with red-yellow scaling; stigmata yellow with brownish in the middle; before them a few yellowish wavy lines, beyond them a yellow somewhat curved band.

ab. fasciata Lempke. Tijdschr. Ent. 1942. 85. p. 135.

Ground colour of the forewings grey-brown to dark brown, submarginal band white, sharply contrasting. *see p. 2.*

ab. intermedia Hornumaki. Verh. zool-bot. Ges. Wien. 1898. 48 p. 449.

Forewings almost unicolorous reddish-brown without the light outer marginal band, only the lower part of the two transverse lines standing out sharply as small white moons.

ab. unicolor Tutt. Brit. Noct. 1891. I. p. 100 & 101.

= aeruginis Edelson & Tams. South's Moths Brit. Is. 1939. I. p. 336.

Unicolorous blackish-brown or reddish-black. The common form in the neighbourhood of London.

ab. rufa Tutt. Brit. Noct. 1891. I. p. 100 & 101.

Ground colour blackish-brown or reddish-black as in the preceding but with red or reddish-gray outer fascia.

ab. terrea Warren. Beits. 1911. 3. p. 174. pl. 40 row 12.

Dull grey and unicolorous, with the markings finely black.

Warrens types, from Tring, Herts, are in the Rothschild collection and are of a paler grey than any other unicolorous form.

ab. aethiops Haworth. Lep. Brit. 1809. p. 215.

Ground colour black, the markings still weakly visible.

ab.rufo-suffumata Heydemann. Stett.Ent. 4.1942.103.p.10.

The basal and marginal field blackish, the middle field red; the subterminal fascia grey or white-grey. Because of its red median area the form reminds one of *P.versicolor*.

The description is from Lempke's Cat.Hed.Lep., I have not seen the original.

ab.fasciata Lempke. Tijdschr.Ent.1942.85.p.135.

Ground colour grey-brown to dark brown, submarginal band white, sharply contrast-ing.

Similar to ab.fasciata Tutt of strigilis.

ab.juncta Lempke. Tijdschr.Ent.1942.85.p.136 (description vol.82.p.197.)

The orbicular and reniform join up but remain distinct.

ab.victiuncula Heydemann. Ent. 4.1932.46.p.80.

Found in the dark forms ab.aethiops and unicolor. Wings with an angulated deep black band from the costa to the inner margin, running between the stigmata, thus forming a similarity to the known but rare form in the species bicoloria.

ab.grisescens Heydemann. Ent. 4.1932.46.p.80.

Ground colour unicolorous brown-grey, basal and central areas somewhat darker, brownish washed, the latter with deep black bar mark; stigmata pale grey-yellow surrounded, internally grey-brownish as is the marginal field.

versicolor Borkhausen. Eur. Schm. 1792. 4. p. 188.
= virgata Tutt. Brit. Noct. 1891. I. p. 99 & 100.

versicolor Borkh. typical form --- forewings reddish-brown mixed with blackish-brown and with whitish markings; the stigmata white-surrounded, the submarginal fascia whitish.

Borkh. cites the figure in Esper's Eur. Schm. pl. 146 fig. 3 which is on the plate is called "strigilis var.". This has the ground colour rather pale reddish brown, the markings black, the submarginal fascia white outwardly edged with black.

Tutt's virgata is a synonym of versicolor since it was named from Guenee's description of his var D of strigilis which was based on the same figure of Esper's pl. 146 as was Borkhausen's versicolor, the two forms must therefore be the same.

ab. fasciata Lenz. Osthelder Schm. Sudbayern 1927. I. p. 269 pl. 14 figs 19-20
Described as latruncula but according to Heydemann, who examined the type, belongs to versicolor.

Corresponding to the ab. fasciata Tutt of strigilis, with a beautiful white band before the margin. Heydemann says the middle field is wine-red, a fact that the author does not mention.

ab. roseo-suffumata Heydemann. Ent. Z. 1932. 46. p. 56. pl. I. f. 7.

Much darkened, wings dusted smoky-grey, the marginal fascia paler grey with red-brown shade; the middle field with rosy shimmer; all markings deep velvety black. All the white of the antemedian line, often seen in latruncula, darkened.

ab. pseudo-latruncula Heydemann. Ent. Z. 1932. 46. p. 56.

On the whole a dark form; the middle field dark red-brown to brown-grey with the black transverse markings indistinct; the stigmata and costa remain pale. Basal field dark brown, marginal field wholly lilac-grey with a brown pre-submarginal line, this area also often with a dirty yellow-grey undertone. The stigmata yellow-grey, mostly not white-surrounded. The form therefore similar to Hubner's latruncula, only the marginal field is never so ochre coloured or rust-red as in latruncula.

ab. brunnescens Heydemann. Stett. Ent. Z. 1942. 103. p. 7.

ab. aethiops Heydemann. Ent. Z. 1932. 46. p. 58 pl. I. f. 6.

Extreme blackened form in which almost all the markings are lost with the exception of the deep black line above the inner margin and the surrounds of the stigmata. Also the rose-coloured undertone of the middle field is absent.

Wockt. 208.
p. I.

Procus Oken.

fasciuncula Haworth. Lep. Brit. 1809. p. 215.
= rubeuncula Donzel. Ann. Soc. Ent. Fr. 1858. 7. p. 430. pl. 12 f. 4-4.

aberrational forms etc.

fasciuncula Haworth. typical form --- ground colour rufous with brown median fascia.

? ab. grandis Turner. Ent. Rec. 1932. 44. Suppl. p. (240).

= erratricula Rambur (nec. Hubner) Cat. Syst. Lep. Ind. 1858. pl. 16 figs. 1-1.

Turner names the figure by Rambur as a form of fasciuncula. This in my opinion is quite wrong, the figure is reasonably good of more or less typical literosa, grandis therefore becomes a synonym of literosa, and does not belong here.

Cal

ab. cana Standinger, 1871. Id. 2. p. 112.

Much paler than the typical form. Forewings almost hoary, with the median fascia rufous.

ab. pallida Tutt. Brit. Wockt. 1891. I. p. 103.

An extreme form of the preceding ab. cana Stgr., with the hoary ground colour spread all over the wings, the median fascia present only in its lower half and then not red but of a slightly darker shade of the ground colour.

ab. extrema Tutt. Brit. Wockt. 1891. I. p. 103.

Forewings entirely hoary-grey without any central fascia.

ab. suffusa Tutt. Brit. Wockt. 1891. I. p. 103.

Of a dark greyish-black, with all the transverse markings obsolete or hardly indicated. The form to some extent is similar to the dark abs. of strigilis and latruncula.

ab. brunneata Warren. Seitz 1911. 3. p. 172.

Brownish, especially in the lower half of the median area.

ab. variegata Lempke. Tijdschr. Ent. 1942. 85. p. 134.

Ground colour of the forewings whitish, central band and outer margin rather dark, clearly contrasting.

- literosa* Haworth. Lep. Brit. 1809. p. 213.
= *suffuruncula* Treitschke. Schmett. Eur. 1825. 5. (2) p. 97.
= *erratricula* Hubner. Samml. Eur. Schmett. 1809-15. f. 537. (H. 3. 2. p. 28)
= *erratricula* Rambur. (citing Hbn.) Cat. Syst. Lep. And. 1858. pl. I. 1. I.
= *grandis* Turner. Ent. Rec. 1932. 44. Suppl. p. (240).

The *erratricula* of Hubner, according to the text in Herrich-Schäffer, belongs to this species and not to *furuncula* Schiff. Rambur cites Hubner's *erratricula* and figures *literosa*, quite recognizable as such. Hubner's fig. is bad looking more like a form of *furuncula* but the description says violet-grey, mixed with reddish. Most authors apparently have gone by the fig. in Hubner and not read the text in Herrich-Schäffer.

Turner has named the *erratricula* figured by Rambur as a form of *fasciuncula*, it is obviously *literosa* and not a very large *fasciuncula* as Turner says.

aberrational forms etc.

literosa Haworth. typical form --- Forewing - bluish-grey with rose tinge in outer area; a black line in the median area.

ab. *subrossa* Warren. Seitz. 1911. 3. p. 17.

The darker grey and fuscous tints of the forewings reduced, the whole being suffused with rosy-brown; the whole thorax also showing rufous.

ab. *onychia* Herrich-Schäffer. Jena Schmett. 1856. 1. 4. figs. 20-21.

Much lighter. Forewings greyish or yellowish-grey, markings very faintly apparent.

ab. *pallida* Cochetagne. Ent. Rec. 1951. 6. p. 159.

Ground colour of the forewing is pale grey, without the rosy tint of the typical form; the basal and median areas are little darker than the outer part of the wing; the dark bar in the median area is absent in some examples and seldom as dark as in normal *literosa*. Hindwing paler than usual, the head and thorax pale grey.

This form is more or less constant on the sand dunes at Jarmouth, Dorset.

ab. *constricta* Warren. Seitz. 1911. 3. p. 17.

The median area between the two transverse lines is narrowed and much darker, especially in the two folds, and the red flush is less developed.

ab. *juncta* Lempke. Tijdschr. Ent. 1942. 65. p. 133. (descript. vol 82. p. 127.)

The orbicular and reniform join up but remain distinct.

ab. *aethalodes* Richardson. Entom. 1940. 72. p. 136.

= *obscura* Lightman. Ent. Rec. 1942. 54. p. 63.

Forewings smoky-black, through which the stigmatal outlines and the narrow bar mark show in deep black and the rosy clouding is seen much as the red in *Notodonta bromedarius* ab. *perfusca*. Hindwings deep grey-brown; head and thorax rosy-black, abdomen deep grey-brown.

Lightman's *obscura* was almost black, with a deep purple tinge.

Moct. 2 IO.
P. I.

Procus Jken.

Furuncula Schiff. Wien Verz. 1775. 5. 87.

(Hubner Samml. Eur. Schmett. 1. II. 2. 5.)

aberrational forms etc.

Furuncula Schiff. typical form --- Schiffermüller merely says "this form is white striped" so it must be taken as the form with brown basal half and whitish outer half. Hubner's figure is probably meant to represent it but the artist has exaggerated and made the colours too rich, the basal part bright red-brown, the outer half yellow with almost an orange tint. Villers *bicoloria* is probably the same form, being described as having the forewings fuscous in the first half and grey in the outer half. It may be separated however, if desired, by being the commoner form with greyish outer half, those with whiter outer area being far less common.

ab. *bicoloria* Villers. Linn. Ent. 1789. 2. p. 288.

= *humeralis* Haworth. Lep. Brit. 1809. p. 215.

Forewings with the inner half fuscous, the outer half grey. Hindwings fuscous.

Possibly synonymous with *Furuncula* Schiff., the typical form.

Haworth's *humeralis* had basal half fuscous, outer half greyish-white, outer margin fuscous.

ab. *pallida* Tutt. Brit. Moct. 1891. I. p. 104 & 105.

Ground colour whitish-grey, the outer half of the forewings paler than the basal half. In detail -- the basal half pale grey, the outer half almost white, the extreme margin a little darker, the stigmata almost white, greyish on the outer margin.

ab. *pulmonariae* Duponchel. Hist. Nat. Lep. 1826. 6. p. 47. pl. 75 f. 3.

This, in my opinion does not belong to the *Procus* group at all. Duponchel refers to Hubner's figure of *pulmonariae* which is somewhat more yellow but, allowing for the artists of those days, the same species. Hubner's *pulmonariae* is accepted by most authors as belonging to *Caradrina* (*Athetis*) but *pulmonariae* Duponchel as belonging to *Procus*. The markings in the coloured figure of the latter appear to match those of the *Caradrina* species than any form of *Furuncula* I have seen. In view of this doubt the form is not included here.

p. 385. pl. 2 f. 3.

ab. *constricta* Heydemann. Schriften. Naturw. Ver. fur. Schleswig-Holstein. 1935. 20.

Forewings with a narrow darkened middle field, which contrasts sharply with the lighter basal area which is either grey or brown-grey; the fringe half light.

ab. *nigrescens* Lemke. Tijdschr. Ent. 1942. 85. p. 131.

Basal area of the forewings black, the outer area dark grey.

ab. *vinctuncula* Hubner. Samml. Eur. Schmett. 1800-03. pl. 20. f. 96.

The figure shows the forewings brownish-ochreous, with a very definite narrow black median transverse line running from costa to inner margin, between the stigmata, standing out in strong contrast to the almost uncoloured ground, the subterminal line shows pale, followed by a grey margin.

ab. *unicolor* Warren. Seitz. 1911. 3. p. 173.

Unicolorous fawn-brown with a slightly darker median band, instead of the black transverse line of *vinctuncula* Hbn.

ab. insulicola Staudinger. Cat. 1871. Ed. 2. p. 103.

Staudinger himself describes the forewings as grey, with white and black stripes. He cites the figures in Herrich-Schäffer's *Neu Schmett.* which however are dark brownish, Herrich-Schäffer himself describing them as yellow-brownish. In view of these differences in ground colour it seems best to take Staudinger's own description for *insulicola*, leaving the brown forms under Tutt's names of *brunnea-reticulata*, *rufa-reticulata* etc.

ab. reticulata Tutt. Brit. Noct. 1891. I. p. 104 & 105.

Tutt's first description says the ground colour is greyish-fuscous, mottled, with distinct transverse lines and stigmata. The second description says the ground colour is pale grey, with the whole area covered with transverse fuscous lines, no trace of the division of the wing into two halves. Presumably he is calling the transverse fuscous lines the ground colour; the first description, with the ground colour greyish-fuscous must be taken.

ab. rufa-reticulata Tutt. Brit. Noct. 1891. I. p. 104 & 106.

The ground colour pale reddish-ochreous, mottled. In the second description Tutt says it is like *fusca* and *grisea-reticulata* but omits to describe either of these forms.

ab. brunnea-reticulata Tutt. Brit. Noct. 1891. I. p. 104 & 105.

The ground colour ochreous-brown or reddish-brown, mottled. Like *reticulata* Tutt but the ground colour not fuscous but reddish-brown or ochreous-brown.

ab. reisseri Schawerda. *Itz. Ost. Ent. Ver.* 1932. 17. p. 12. pl. 3 f. 5 & 6.

Ground colour of forewings grey-brown, the central area dark brown and margined on both sides by a double white line. The orbicular clearly visible with light margin, the reniform large, strikingly white, and reaching a larger white costal spot, thereby appearing strikingly larger and whiter, three very small white spots on the costa towards the apex and a weak whitish submarginal line. Described as a subspecies from Corsica but a series of specimens from England in the R. C. K. collection agree very well with the description.

ab. terminalis Haworth. *Lep. Brit.* 1809. p. 215.

Unicolorous reddish-brown, the outer margin blackish.

ab. rufuncula Haworth. *Lep. Brit.* 1809. p. 216.

Unicolorous reddish with three obsolescent pale series.

ab. albicans Tutt. Brit. Noct. 1891. I. p. 104 & 105.

Forewings unicolorous whitish-grey. In the second description on p. 105 Tutt changes this to "unicolorous white, with a little grey shading in the centre of the wing around the orbicular, the outer area a little shaded with grey."

ab. albimacula Spuler. *Schmett. Eur.* 1905. I. p. 181.

Similar to *rufuncula* Haworth, unicolorous red-grey but with white reniform.

ab. pseudonychina Heydemann. *Int. Ent. Z.* 1933. 27. p. 361. pl. I. f. 18.

Similar to sand-coloured form of *P. literosa*, *ab. onychina* H.-Sch. Whitish ochre-coloured or unicolorous grey-yellowish.

ab. obscura Lemaire. Tijdschr. Ent. 1942. 85. p. 131.
Forewings unicolorous black-grey, markings obsolete.

ab. longistriata Warren. Seitz. 1911. 3. p. 173. pl. 40 row 1.
= *latistriata* Hoffmeyer & Knudsen. Flora og Fauna 1935 p. 59 pl. fig. II-12.
A straight black streak runs along the submedian fold from base to termen. The ground colour is pale grey, suffused with rufous-brown, except at base of costa and beyond the pale grey reniform, the terminal area paler rufous-brown. Hoffmeyer's *latistriata* is too similar to be worthy of separation. In the lower half of the forewings a broad sharply contrasting blackish line runs parallel with the inner margin from the first transverse line or from the basal area to the outer margin.

ab. pseudonychnina-striata Schultz. Int. Ent. Z. 1934. 28. p. 419.
Similar to *ab. pseudonychnina* Heydemann but with the following striking marking; from the fine black basal streak there runs a straight black longitudinal streak through the whole of the forewing as far as the margin, as in *ab. longistriata* Warren.

ab. antithesis Schultz. Int. Ent. Z. 1934. 28. p. 419.
Outer half of forewings chalk-white, inner half light brownish with darker markings. In the middle of the wing, near and above inner margin, a deep black V shaped marking (the so-called conjuncta streak) stands out very sharply. Presumably this means the extension of the claviform into a black streak connecting with the second transverse line, a common character in *Apamea secalis*.

ab. minor Dufrane. Lamb. 1932. 32. p. 82.
Small examples, 17 mm., of *bicoloria* Vill.

ab. minuscula Dufrane. Lamb. 1932. 32. p. 82.
Small, the same as *ab. minor* Dufrane, but of the form *ab. rufuncula* Haworth.

ab. nigrobrunnea Heydemann. Stett. Ent. Z. 1942. 103. p. 19.

Noct. 211.
p. I.

Phoebastria Led.

captiuncula Treitschke. Schmetz. Eur. 1825. 5. (2). p. 56.
= *unica* Freyer. Neu. Beitr. 1858. 7. p. 68 pl. 640 f. I.

Heydemann is of the opinion that *minima* Haworth is the correct name for this species but most authors accept *minima* Haw. as the female of *arcuosa* Haworth

aberrational forms etc.

captiuncula Treits. typical form --- much brighter than the English race, the nearest form (if not the same) being the Irish examples, which however, on average are smaller, so may be separated under the name *tincta* Kane. In this case, the typical form does not occur in Britain.

subspecies *tincta* Kane. Entom. 1895. 28. p. 155.

A richly coloured form found by Mr. Birchall (see detailed description.)

Extremely like the Continental form and possibly the same but our series from Ireland are somewhat smaller than those from the Continent.

Described from Ardrahan, Ireland where it is local but plentiful.

subspecies *expolita* Doubleday. Ent. Ann. (Stainton). 1855. I. p. 41.

The race from North England. Much greyer and duller than the typical form.

ab. *captiunculoides* Strand. Arch. Naturg. 1915. 81. A II. p. 154.

Forewing with the postmedian area rufous, without white beyond the postmedian line.

This form does not apply to our dull English race but may occur in the one from Ireland which is very similar to the Continental.

ab. *albosuffusana* Strand. Arch. Naturg. 1915. 81. A II. p. 154.

On the forewing the ante and postmedian areas are suffused with white.

Described from "Palearctic Region" but is not likely to apply to our dull English race *expolita*.

ochroleuca Schiff. *den Vers.* 1774. p. 7.

Esper gives two figures of *ochroleuca* on pl. 126 of *Eur. Schm.* (1) but fig. 1 appears to be almost certainly *Calophasia lunula* Hufn. fig. 4 is *ochroleuca*.

aberrational forms etc.

ochroleuca Schiff. typical form --- the only description by Schiffermüller is--forewings yellowish-brownish white-mixed, crossed by several light wavy lines which approach each other, and dark hindwings with a light outer margin. Esper's fig. 4 on pl. 126 of *Eur. Schm.* represents this form but his fig. 1, also said to be *ochroleuca*, is much more like *Calophasia lunula* Hufn., with the fringes heavily chequered.

Some authors include *flammea* Hubner, figured on pl. 19 2, 92 of *Samml. Eur. Schm.*, under this species but it is an obvious error, the numbers being switched. Fig. 92 is actually *ochroleuca* and fig. 91 is *flammea*. In the plate legend the names are switched. The error is so obvious that it should be overlooked and *ochroleuca* accepted as fig. 92.

ab. *griseoleuca* Bannehl. *Mitt. Münch. Ent. Ges.* 1929. 1. p. 108.

All the yellowish-brown tones are dull brownish-grey, the whitish parts also tone to grey, the appearance is thus paler and softer than in the typical form. The black-brown lines and curves in the bordering of the median area are wanting. The darkened portion of the outer margin of the hindwing is soft grey with a yellowish tinge.

ab. *pallida* Lightman. *Ent. Rec.* 1947. 59. p. 27.

Ground colour pale greenish-grey, cilia white, the dark bars obsolete except at the extreme edge. Submarginal area white with the faintest green dusting, apical patch extended and white, the pale area outwards from the upper dark blotch almost wholly white, the two dark blotches are light grey in colour and widely separated by white. A scarce form, not from Sussex larvae.

ab. *rufescens* Lightman. *Ent. Rec.* 1947. 59. p. 27.

Ground colour pale rosy-pink; the darker markings apart from the red-brown blotch are red. The usual white markings, including the apical patch, are flesh-colour, but there are a few white lines around the blotches. Also a scarce form especially in the female.

ao. *obscura* Lemoine. *Rijdschr. Ent.* 1942. 85. p. 122.

= *brunnea* Lightman. *Ent. Rec.* 1947. 59. p. 27.

Ground colour of the forewing dark brown, the markings normal, still darker.

Lightman's *brunnea* has the ground colour brown, the dark blotches and band between the outer line and submarginal line deep chocolate. The submarginal area and apical patch pale brown, whilst the usual pale area outwards from the upper dark blotch is so marked with brown reticulation as to be lost in the general brown of the wing; the reniform is clearly seen, being the palest part of the wing, white, edged in brown and with a brown centre, the orbicular also clearly marked white and edged with brown and with a brown dot in centre.

Oct. 212. .
p. 2.

ochroleuca Schiff. continuu.

ab. fasciata Lempke. Tijdschr. Ent. 1942. 85. n. 122.

The central band of the forewings is not divided into upper and lower halves but is complete.

Noct. 213.
p. I.

Luperina Boisd.

testacea Schiff. Wien Verz. 1775. p. 81.

aberrational forms etc.

ab. obsoleta Tutt. Entom. 1889. 22. p. 206.

The first description says "Pale greyish-white, with no darker markings whatever. The fuller description, below, says "pale ochreous-grey colour with all the lines, markings and stigmata still paler." An extreme pale unicolorous form which seems excessively rare, specimens from Deal, Fligo, Hartlepool. This, form from its localities, therefore does not belong to guenei Doubleday as some authors suggest.

ab. cinerea Tutt. Entom. 1889. 22. p. 206. & 207.

Tutt's first description says "Ashy-grey with distinct markings", but in giving the description of Guenee's var. B, on which ab. cinerea was based, says "ashy-grey the transverse lines indistinct". Presumably the form is a mere colour one.

ab. ochreo-pallida Culot. Noct. 1909-13. I. p. 140. pl. 25 f. 12.

A clear clay-brown. The coloured figure shows a sandy tint, the markings weak but distinct.

ab. pallescens Culot. Noct. 1909-13. I. p. 140. pl. 25 f. 15.

Very pale. The figure shows the forewings greyish-white with a slight rufous tint, the markings fine but distinct.

ab. bicolor Culot. Noct. 1909-13. I. p. 140. pl. 25 f. 13.

The median area of the forewings much darker than the rest, forming a striking transverse band. The figure shows the area between the two transverse lines, filled with dark brown.

ab. obscura Culot. Noct. 1909-13. I. p. 140. pl. 25 f. 14.

= scotiae Strand. Arch. Naturg. 1915. 81. A II. p. 155.

Uniform obscure brown. Strand's scotiae was "much darker brown".

ab. nigrescens Tutt. Entom. 1889. 22. p. 206 & 207.

Blackish-grey with indistinct markings which, however, vary.

ab. vittata Cockayne. Ent. Rec. 1951. 63. p. 159.

On the forewings the stigmata are pale, but the markings in the median and basal areas are dark fuscous; outside the postmedian line and extending to the submarginal line is a broad band of pale whitish-ochreous colour; there is a pale marginal line of the same colour and between this and the broad band lies the broken dark submarginal line.

ab. juncta Lempke. Tijdschr. Ent. 1942. 85. p. 121. (Description vol. 82. p. 197.)

The orbicular and reniform join up but remain distinct.

ab. semiconfluens Lempke. Tijdschr. Ent. 1942. 85. p. 122. (Description vol. 82. p. 197.)

Instead of joining the stigmata are united by a double line.

ab. unca Haworth. Lep. Brit. 1809. p. 194.

Wings pale rufous, with two stripes and marginal fascia somewhat fuscous. The second stripe, composed of numerous black lunules, is connected to the first by a little hook-bearing black line.

The main character would appear to be the abbreviated horizontal bar (which often extends from the claviform and reaches the second transverse line) In this form there is a hook-shaped mark at the end of the line, the line (or bar) continuing and connecting with the second transverse line.

ab. lunato-strigata Haworth. Lep. Brit. 1809. p. 194.

Wings somewhat reddish, clouded with black and with two stripes and marginal fascia fuscous. Hardly differs from the preceding except for its smaller size and darker saturation.

Tutt gives his own idea of this form which does not agree with this original description by Haworth. He says it has no black mark beneath the stigmata, yet Haworth himself says it differs little from the preceding, except in size.

The form would appear to be more connected with size than anything else since it is given the English name of "The Lesser Flounced Rustic".

ab. x-notata Haworth. Lep. Brit. 1809. p. 194.

Wings reddish with and oblong black spot, which is emarginate on both sides, in the middle of the wing, and an arched stripe, formed of black lunules, beyond the middle of the wing. Almost the same as the preceding but more rufous and the median black spot different.

This form is a development of unca in which the black line or bar in the middle of the wing is abbreviated into a line and hook. In x-notata it is a definite black spot, concave on each side and giving the appearance of the letter K.

lect. 1914.
p. I.

Luperina Boisd.

nickerlii Freyer.
subsp. gueneei Doubleday. Ent. Annual. 1864. 12. 8. 123.
= incerta Tutt. Brit. lect. 1891. I. p. 120.

aberrational forms etc.

nickerlii Freyer. --- the typical form does not occur in Britain, the subspecies gueneei Doubleday is not the same as the pale form of testacea which Guenee collected on the Continent and which for many years was confused with our sand-coast subspecies of nickerlii.

ab. baxteri South. Entom. 1909. 42. p. 269. pl. 7 figs. 3-4. and p. 290.
Tutt described his incerta (placed as a synonym of gueneei Dbl.) as greyish-fuscous with a slight ochreous tinge. South gave the name baxteri to specimens which were paler greyish. A fuller description is given on p. 290 of the same volume which says the ground colour paler and without the ochreous tinge of gueneei. The black edging of the whitish transverse lines varies in intensity, but in two of the six specimens this is inconspicuous; reniform more or less outlined in white, but this character is less evident than in L. nickerlii, etc. Very little different from gueneei Dbl. and may be considered a synonym together with incerta Tutt, since the types of these are not available to decide exactly of what shade they were.

ab. iota Turner. Ent. Rec. 1911. 23. p. 171.
The dark spot or blotch beneath the stigmata, frequent in L. testacea, (rare in the present species) distinctly present.
This mark is the extension of the claviform into a short bar, linking the two transverse lines a little above the inner margin.

ab. murrayi Turner. Ent. Rec. 1911. 23. p. 89 pl. 3 f. 5 & 6.
Like the normal form but with the submarginal area, between the dark marginal lunules and the submarginal line, much paler than any other part of the wing, by contrast throwing out these dark lunules very conspicuously.

ab. fusca Turner. Ent. Rec. 1911. 23. p. 89 pl. 3 f. 1 & 2.
Ground colour very dark grey with no trace of the ochreous tinge or any pale grey ground. All the markings are intensified, their increased sharpness in contrast with the ground, tends to make the specimens appear darker to the naked eye.

ab. minor Turner. Ent. Rec. 1911. 23. p. 89 pl. 3 f. 8.
Very small, 29 mm., normal examples measuring 37 mm.

ab. unimaculata Silbernagel. Ent. Z. 1930. 44. p. 118.
The orbicular completely absent.
Described under the typical form of nickerlii, but may well occur in our own subsp. gueneei.

subsp. kneri Saurin

